United States Environmental Protection Agency
Region 5
Superfund Division

Quality Management Plan

December 2017

Approved on: December 20, 2017
Approved through: December 20, 2022

U.S EPA REGION 5 SUPERFUND DIVISION
QUALITY MANAGEMENT PLAN
December 2017 Revision
Approvals (Page 1 of 2)

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U.S EPA REGION 5 SUPERFUND DIVISION
QUALITY MANAGEMENT PLAN
December 2017 Revision
Approvals (Page 2 of 2)

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RESERVED FOR QMP APPROVAL MEMORANDUM

TABLE of CONTENTS

ATTACHMENTS

ACRONYMS AND ABBREVIATIONS

AADSS	Advanced Analysis and Decision Support Section
ADQ	Audit of Data Quality
ADP	Automatic Data Processing
ANSI/ASQC	American National Standard Institute/American Society for Quality Control
AR	Administrative Record
ASTM	American Standards for Testing Materials
BCRLF	Brownfield Cleanup Revolving Loan Fund
BF	Brownfield
BNRS	Brownfields and NPL Reuse Section
BRAC	Base Realignment and Closure
CA	Cooperative Agreement
CAR	Cooperative Agreement Recipient
CAA	Clean Air Act
CBI	Confidential Business Information
CEPP	Chemical Emergency Preparedness and Prevention
CEP	Combined Enforcement and Penalty
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CFR	Code of Federal Register
CIO	Chief Information Officer
CIOS	Community Involvement and Outreach Section
CLP	Contract Laboratory Program
CO	Contracting Officer
COC	Chain of Custody
CRL	Chicago Regional Laboratory (Region 5)
CS	Contract Specialist
CMS	Contract Management Section
DBMS	Data and Budget Management Section
DCN	Document Control Number
DCO	Document Control Officer
DQA	Data Quality Assessment
DQO	Data Quality Objectives
EAS	EPA Acquisition System
ECAB	Enforcement and Compliance Assurance Branch
EPCRA	Emergency Planning and Community Right-to-Know Act
ERB	Emergency Response Branch
ERRS	Emergency Rapid Response Services
EMSL	Environmental Monitoring System Laboratory (ORD)
EPA	Environmental Protection Agency
ESS	Enforcement Support Services
FAR	Federal Acquisition Regulations
FIELDS	Fully-Integrated Environmental Location Decision Support System
FOG	Field Operations Group

FOIA	Freedom of Information Act
FSS	Field Services Section
FRMS	FOIA and Records Management Section
GEOS	Groundwater Evaluation and Optimization System
GIS	Geographical Information System
GSA	General Services Administration
IDP	Individual Development Plan
IQG	Information Quality Guidelines
IRM	Information Resources Management
IGCE	Independent Government Cost Estimate
LEPC	Local Emergency Planning Committee
LRB	Land Revitalization Branch
MARLAP	Multi-Agency Radiation Laboratory Protocol Manual
MOA	Memoranda of Agreement
NARA	National Archives and Record Administration
NCP	National Contingency Plan
NFA	No Further Action
NPL	National Priority List
OEI	Office of Environmental Information
OMB	Office of Management and Budget
OSC	On-Scene Coordinator
OPA	Oil Pollution Act
PE	Performance Evaluation
P&A	Precision and Accuracy
PARCCS	Precision, Accuracy, Representativeness, Completeness, Comparability, Sensitivity
PC-DOC	SFD IT Equipment Coordinator
PM	Project Manager
PO	Project Officer
PRP	Potentially Responsible Parties
PT	Proficiency Testing
QA	Quality Assurance
QAARWP	Quality Assurance Annual Report and Work Plan
QADTS	Quality Assurance Data Tracking System
QAFAP	Quality Assurance Field Activities Procedures
QAM	Quality Assurance Manager
QARF	QA Review Forms
QAPP	Quality Assurance Project Plan
QC	Quality Control
QMP	Quality Management Plan
QSA	Quality System Assessment
RAC	Remedial Action Contract
RLF	Revolving Loan Fund
RMP	Risk Management Plan

ROC	Regional Oversight Contract
RRB	Remedial Response Branch
RPM	Remedial Project Manager
RQAC	Regional Quality Assurance Core
RQAM	Regional Quality Assurance Manager
RQAT	Regional Quality Assurance Team
SAGS	Site Assessment and Grants Section
SAP	Sampling and Analysis Plan
SARA	Superfund Amendments and Reauthorization Act
SCAP	Superfund Comprehensive Accomplishment Plan
SERC	State Emergency Response Commission
SFD	Superfund Division
SFD QMP	Superfund Division Quality Management Plan
SIRMO	Servicing Information Resources Management Officer
SMO	Sample Management Office
SOP	Standard Operating Procedure
SOW	Statement of Work
SQAS	Science and Quality Assurance Section
SSA	Site Specific Assessment
STAT	Superfund Technical Assistance Team
START	Superfund Technical Assessment & Response Team
TBA	Targeted Brownfield Assessment
TM	Task Monitor
TSA	Technical System Audit
UFP	Uniform Federal Policy
VCP	Voluntary Cleanup Program
WAM	Work Assignment Manager
WP	Work Plan

INTRODUCTION

The United States Environmental Protection Agency (U.S. EPA) requires participation in an Agency-wide quality system by all EPA organizations (laboratories, Headquarters' program offices, and Regional offices) and by non-EPA organizations such as contractors, grantees or regulated entities which conduct environmental programs which generate or use environmental data or environmental technology on behalf of U.S. EPA. U.S. EPA's intent to require such quality systems has been to ensure that quality assurance is an integral part of all environmental data operations. Further, it has been U.S. EPA's intent to ensure that all environmental data are scientifically sound, defensible and of known and documented quality that are appropriate and adequate for the intended uses.

This 2017 revision of the Region 5 Superfund Division (SFD) Quality Management Plan (QMP) replaces the December 2012 (with minor revisions November 17, 2015) version in its entirety. This version includes a number of revisions, including changes in policies and organizational changes resulting from the 2016 reorganization of the SFD, and other improvements intended to strengthen the SFD quality system.

The SFD QMP is intended to comply with all U.S. EPA Quality System requirements and consensus standards stated in:

- Chief Information Officer (CIO) 2105.0, *Policy and Program Requirements for the Mandatory Agency-Wide Quality System, May 2000 (reissued January 2008)*;
- EPA QA/R-2, *EPA Requirements for Quality Management Plans, March 2001 (reissued May 2006);*
- EPA QA/R-5, *EPA Requirements for Quality Assurance Project Plans, March 2001 (reissued May 2006);*
- ASQ/ANSI E4:2014, *Quality Management Systems for Environmental Information and Environmental Technology*;
- U.S. EPA Region 5 QMP (R5 QMP), approved March 16, 2015; and
- All subsequent revisions or replacements of these documents.

The Region 5 SFD QMP documents SFD's organization, quality policies and processes in which environmental data operations and environmental technology are planned, implemented and assessed at the program and project-levels. The SFD QMP is a management tool appropriately tailored to the needs of SFD and defining how its QA program objectives are attained. The SFD QMP is submitted to SFD senior managers, the Regional Quality Assurance Manager (RQAM) and the Regional Administrator (RA) for review/approval. The SFD QMP complies with Region 5's quality system and policies as described in the R5 QMP.

The QMP will be reviewed at least annually and revised or updated as necessary by the Superfund Division Quality Assurance Manager. All revisions or updates will be submitted to the RQAM for inclusion in the Region 5 Quality Assurance Annual Report and Work Plan

(QAARWP). Any minor revisions of the SFD QMP will be internally reviewed and approved within SFD. Major revisions based on reorganizations, change in scope of mission, resources and the quality system require review and approval by SFD senior managers, the RQAM and the RA.

1.0 MANAGEMENT AND ORGANIZATION

1.1 Region 5 Superfund Division Organization

The Region 5 Superfund Division (SFD), under the management of the Director, is the lead Division in Region 5 responsible for implementing the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA), the Clean Air Act Amendment of 1990 Section 112(r), the Emergency Planning & Community Right-To-Know Act of 1986 (EPCRA or SARA Title III, Sections 311 and 312), the Clean Water Act (CWA) as amended by the Oil Pollution Act (OPA) of 1990 (the Spill Prevention, Control, and Countermeasure Plan Program) and the Small Business Liability Relief and Brownfields Revitalization Act of 2002. The SFD integrates QA in managing the development, coordination, implementation and evaluation of all technical, enforcement and administrative support aspects of the Superfund Program within the Region, including emergency response and removal activities, the SARA Title III Program, remedial and enforcement activities at Superfund sites, State cooperative agreements, information and record management, technical analysis and support, and contracts management. The Superfund Division is also responsible for working with the State and local emergency planning committees, Indian tribal governments in Region 5 and with other Federal Agencies in developing multi-media Chemical Emergency Preparedness and Prevention (CEPP) contingency plans and related activities.

The SFD is organized into the Immediate Office (IO) and six branches. The Branches are as follows:

Emergency Response Branch No. 1(ERB1)
Emergency Response Branch No. 2(ERB2)
Remedial Response Branch No.1 (RRB1)
Remedial Response Branch No.2 (RRB2)
Land Revitalization Branch (LRB)
Operations Management Branch (OMB)

Figure 1 provides a chart of the SFD's current organization.

<u>Emergency Response Branches 1and 2 (ERB1 and ERB2)</u>

Both ERB1 and ERB2 are responsible for Regional/area wide contingency planning and response to emergency removal actions at uncontrolled hazardous waste sites, and managing Homeland Security related activities. In addition, the ERB1 manages oil spills under the provisions of the National Contingency Plan (NCP), CERCLA and CWA/OPA. Enforcement Services Section provides enforcement, compliance assistance and cost recovery support to the Remedial and Emergency/Removal Programs, working closely on these matters with the Office of Regional

Counsel (ORC) and the Resources Management Division, Comptroller Branch, Program Accounting and Analysis Section. ERB1's Chemical Emergency Preparedness and Prevention Section (CEPPS) is responsible for implementing our regulatory/enforcement authorities under: Section 112(r) of the 1990 Clean Air Act Amendments (Risk Management Program); EPCRA Section 304 and CERCLA Section 103 (chemical release notification); EPCRA Section 311 (material safety data sheet submission); EPCRA Sections 312 and 313 (annual chemical release / toxic release inventory reporting); and Section 311 of the Clean Water Act (as amended by the Oil Pollution Act) – the Spill Prevention, Control, and Countermeasure Plan Program. Environmental data are not collected or used in this program so QAPPs are not required. Inspections are conducted in accordance with the January 2011, "Guidance for Conducting Risk Management Program Inspections under Clean Air Act Section 112(r)", EPA 550-K-11-001. The checklist used by the inspectors can be found at G:Ocepp-en/1-RMP docs/1-RMP Documents/Checklists and Inspection Report/Program Level 3. SPCC inspections are performed in accordance with the Regional Inspector Guidance and HQ-issued checklists found at http://www.epa.gov/oem/content/spcc/.

Superfund Division

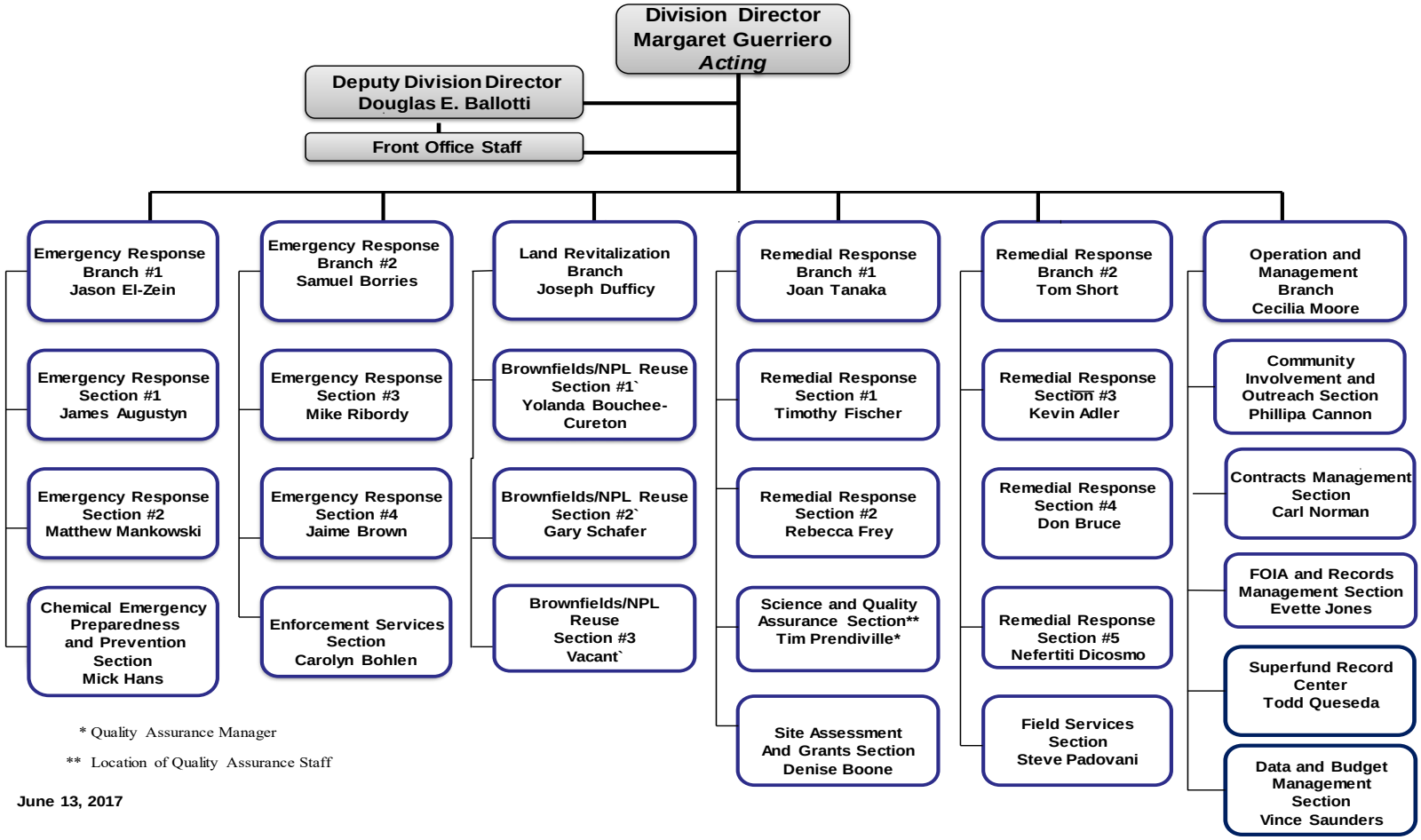

Figure 1

Remedial Response Branches 1 and 2 (RRB1 and RRB2)

Both RRB1 and RRB2 are responsible for planning, managing and implementing a program for investigation and clean-up, through remedial and/or enforcement action, at the highest priority uncontrolled hazardous waste sites within the six-State Region. The Branches direct the development, coordination and implementation of the Remedial Investigation/Feasibility Study process, the Remedial Design and construction process. The Divisional Quality Assurance Manager, and Quality Assurance (QA) staff are located in the Science and Quality Assurance Section (SQAS) in RRB1. The QA staff reviews and approves Quality Assurance Project Plans (QAPPs), Quality Management Plans (QMPs), and provides training to the SFD on QA issues. SQAS staff also provide technical support on human health and ecological risk assessment and toxicology, hydrogeology and analytical services. Site Assessment Managers, as well as State Project Officers are also located in RRB1, Site Assessment and Grants Section (SAGS). RRS5 is responsible for Federal facilities coordination. The Field Services Section (FSS) is located in RRB2 and provides field services to the entire division. It also is responsible for SFD graphics support and the FIELDS program. FSS provides technical support to the removal and remedial programs by conducting data analyses; radiological and geophysical surveys; and collection of soil and groundwater samples.

Land Revitalization Branch (LRB)

LRB houses the Superfund Division's the Brownfield Program, the Superfund Reuse Initiative and the Sustainable Communities/Land Revitalization Programs. All Branch staff oversee Agency work assignments and service a variety of grant programs. All contract SOWs and QA docs and sampling plans are reviewed by individual project managers/project officers and approved by a Program QA Specialist. All Brownfield assessment grants and those cleanup grant sites not enrolled in a state cleanup or Brownfields Program requiring sample collection have QAPPs generated off of existing models and are reviewed by program staff and approved by a QA Specialist. The Branch completes roughly 400 site assessments and processes 60 QAPPs per year.

Operations and Management Branch (OMB)

OMB is comprised of the following Sections: Contract Management (CMS), Data and Budget Management (DBMS), Community Involvement and Outreach (CIOS), FOIA and Records Management (FRMS) and Superfund Record Center. CMS is responsible for contracts/assistance agreements management for entire division and for inter-agency agreements and cooperative agreements for the Division. DBMS manages the Superfund national data base activities and provides for information management needs for the entire division. The SFD budget coordinator duties are also located in DBMS. The SFD Division IT Equipment Coordinator (PC-DOC) is located in DBMS. OMB manages the Division’s Records Center and coordinates all of the Division’s Freedom of Information Act (FOIA) responses. The SFD Document Control Officer

and Records Officer are located in FRMS.

1.2 SFD Quality Assurance Policy

SFD Quality Assurance Policy will follow the Regional QA policy (Sections 3.2.1 of Region 5 QMP) in order to accomplish the following objectives:

- All work performed by or on behalf of the SFD (including through extramural agreements such as grants and contracts) that involves the collection and/or use of environmental data and/or environmental technology will be implemented in accordance with an approved Quality Assurance Project Plan (QAPP).
- All environmental data, generated by or for the SFD, will be of known and documented quality, using a defined systematic planning process. The Data Quality Objectives (DQOs) process will be the default systematic planning process for QAPP development of a specific data collection.
- All QA criteria for all SFD environmental projects and tasks are based on documented Superfund program and/or SFD policies, procedures and guidance.
- A graded approach will be used on the SFD projects to determine compliance with QA requirements.
- Any project deficiencies which are identified, will be documented, highlighted and verified that corrective actions are appropriately taken.
- All activities that affect or potentially affect the quality of data within the divisional responsibilities will be performed by appropriately trained staff.
- QA training will be provided to staff at all levels to ensure that QA requirements and responsibilities are understood and implemented at all stages of the project.
- Per 40 CFR 35 Subpart O (Cooperative Agreements and Superfund State Contracts) and 40 CFR 300 (Superfund removal/remedial program), EPA is responsible for final review and approval of QAPPs and related QA planning documents involving environmental data operations and environmental technology for programs covered by these regulations. For Region 5, this responsibility is SFD's and may not be delegated to State agencies or other entities.

1.3 Quality Assurance Responsibilities

This section defines the roles, responsibilities and authorities for SFD's quality system for planning and implementing quality assurance activities. The lead for SFD's QA program is the SFD Quality Assurance Manager (QAM). The SFD QAM is assisted by the QA staff deployed throughout SFD. The Superfund Division organizational chart is shown in Figure 1. The independence of the SFD QAM and QA Staff is vitally important to SFD's implementation of its Quality System, allowing the QAM the authority to advocate the importance and relevance of quality in EPA's work. The QAM reports directly to the Remedial Response Branch 1 Branch Chief and is able to serve without any potential conflicts of interest due to his/her location in the SQAS. With the exception of one staff Remedial Project Manager in the SQAS the QAM is

outside any sub-group that generates environmental data, develops models, or has technology development duties. Any QA issues requiring QAM input related to the work of the one RPM in the Section would be directed to QA staff outside of the SQAS.

1.3.1 Responsibilities of SFD QA Staff

SFD QA Staff are deployed in two sections: two chemists in SQAS, and one chemist/environmental scientist in the Land Revitalization Branch (CLRB). QA personnel are responsible for the following activities, as appropriate:

- Log in the QAPPs (the SOP for QAPP log-in can be found in Attachment B).
- Provide the information about status of each document review to the QAM.
- Maintain the files and records pertaining to QAPP/Data Validation reviews, including the QA Document Tracking System (QADTS) and any requested reports providing the status of documents submitted for the review to the SFD QAM.
- Review and approve QAPPs, to ensure that all data collection activities are covered by appropriate documentation.
- Attend and lead the project scoping/pre-QAPP meetings to ensure that Agency and Regional QA policies are addressed.
- Conduct data evaluation for achievement of DQOs.
- Conduct laboratory audits for compliance with the DQO for the project.
- Oversee and audit Environmental Services Assistance Team (ESAT) data review packages for technical and contractual completeness and accuracy based on current Statement of Works (SOWs) or Standard Operating Procedures (SOPs) for Potentially Responsible Party (PRP)-Lead Projects and recommend an evaluation of ESAT to the Regional Project Officer.
- Conduct on-site audits of field activities for consistency with QA objectives and appropriate QA procedures including Contract Laboratory Program (CLP) requirements.
- Conduct audits of CLP and non-CLP lab for technical and contractual compliance, including on-site visits.
- Develop and provide training on data review to the data user.
- Assist SFD staff in determining whether statistical assistance is required.
- Provide assistance to SFD staff, when requested, to perform DQA of the project.
- Develop and provide QA training to states/tribes and SFD staff.
- Provide information for the Quality Assurance Annual Report and Work Plan (QAARWP).

1.3.2 SFD Quality Assurance Manager Responsibilities

SFD QA Manager is responsible for QA oversight, ensuring that all personnel understand the SFD QMP and their QA/QC responsibilities. The SFD QA Manager ensures compliance with

EPA CIO 2105.0, *Policy and Program Requirements for the Mandatory Agency-Wide Quality System, May 2000 (reissued January 2008)*; CIO 2105-P-01, *EPA Quality Manual for Environmental Programs (formerly EPA Manual 5360 A1,May 5, 2000) reissued January 2008;* ASQ/ANSI E4:2014, *Quality Management Systems for Environmental Information and Environmental Technology*; U.S. EPA Region 5 QMP (R5 QMP), approved March 16, 2015; and all subsequent revisions or replacements of these documents. The SFD QA Manager's functions and responsibilities include these activities:

- Maintain active communication with the RQAM and Regional Quality Assurance Core (RQAC).
- Maintain active participation in Regional QA Team (RQAT) chaired by RQAM.
- Participate in the Agency and Regional workgroups.
- Assist management in developing the SFD QMP.
- Review the SFD QMP at least annually and revise or update as necessary, and distribute the revised divisional QMP for implementation.
- Ensure that all field and office personnel involved in environmental data collection receive training or information needed to become knowledgeable in QA requirements, protocols, and technology.
- Ensure that all environmental data collection activities are covered by appropriate QA planning process and documentation (i.e., DQOs and QAPPs).
- Coordinate/assist in resolving QA-related issues/problems within the Division.
- Consult with RQAC on complicated QA issues.
- Ensure that audits/reviews are conducted to ensure that environmental data collection activity adheres to the approved QAPPs and to identify deficiencies in QA/QC systems.
- Ensure adequate corrective actions are taken/implemented in response to audit/review findings.
- Recommend the required management-level corrective actions to the SFD Director.
- Conduct an internal Quality System Audit (QSA) of at least one major program element (i.e. Branch, cross-Branch program) per 3 years.
- Provide quality system guidance to State agencies and Indian Tribal governments, review and recommend approval of the State and Tribal QMPs, and provide technical assistance on revisions as necessary.
- Identify QA/QC training needs for the SFD and provide QA training to States agencies, Indian Tribal Governments and SFD staff.
- Track SFD QA activities including document review/approval, inspections, audits, program management review, and QA training.
- Prepare and submit to the RQAM the Quality Assurance Annual Report and Work Plan (QAARWP).
- Act as backup to QA Staff for review/approval of QA documents.
- Ensure that the approval of QAPPs is by a qualified EPA QA staff reviewer, prior to the initiation of the project, except under circumstances requiring immediate action to

protect human health and the environment. In some instances, an initial review may be conducted by other qualified parties, e.g. contractors, but final approval shall be from EPA QA staff, or other qualified EPA staff.

1.3.3 SFD Staff Responsibilities

SFD staff includes those who are responsible for implementation of the QA program such as RPMs, OSCs, project officers for extramural agreements (i.e. grants, contracts) and other staff with similar responsibilities for environmental data operations. To comply with EPA CIO 2105.0, CIO 2105-P-01-0 and ASQ/ANSI E4SFD staff's major responsibilities are:

- Ensure that all applicable SFD and extramural programs and activities for which they are responsible comply fully with the requirements of EPA QA/R-2, *EPA Requirements for Quality Management Plans, March 2001 (reissued May 2006)*; EPA QA/R-5, *EPA Requirements for Quality Assurance Project Plans, March 2001 (reissued May 2006)*; ASQ/ANSI E4:2014; Region 5 SFD QMP (SFD QMP), all subsequent revisions or replacements of these documents, including appropriate QA planning documentation such as QAPPs and QMPs.
- Ensure that the results of the environmental programs are of sufficient quantity and adequate quality for their intended use.
- Identify their QA training needs to management and SFD QA Manager.
- Ensure that they understand the specific QA/QC requirements for their environmental data collection.
- Conduct peer review activities as determined appropriate by the Division Director and are consistent with EPA and Region 5 peer review requirements and guidance.
- Final review and approval of project documents including QA documents

1.3.4 SFD Managers Responsibilities

SFD management is responsible for overseeing the implementation of the Quality Assurance (QA) program. To comply with EPA CIO 2105.0, CIO 2105-P-01-0 and ASQ/ANSI E4 and SFD policy, managers' major responsibilities are:

- Ensure that the SFD QMP is distributed and properly implemented.
- Ensure that quality management is an identified activity with associated resources adequate to accomplish its program quality goals.
- Ensure that all subordinate organizational components and programs are fully compliant with the requirements of the QA Order.
- Ensure that all applicable environmental programs for which management is responsible and which are performed by outside organizations for EPA comply fully with the requirements of the QA Order.
- Ensure that the results of the environmental programs are of sufficient quantity and adequate quality for their intended use.

- Ensure that the initial review of all QAPPs is provided by quality assurance staff.

1.3.5 SFD Director's Responsibilities

The SFD Director has overall responsibility for managing the Divisional QA program according to Agency QA policy and the Region's QA Program specifications. The SFD Director has final authority of approving QA policy and documentation at the Division level.

To comply with EPA CIO 2105.0, EPA CIO 2105-P-01-0 and ASQ/ANSI E4, the SFD Director's responsibilities are:

- Ensure that a QMP for the SFD is in place and implemented; on an annual basis, the QMP is properly reviewed/evaluated for its effectiveness to the program, and revisions made, as needed, in a timely fashion.
- Ensure that any changes to the QMP for the program are distributed to RQAC, and all personnel performing work for the program, including all program staff, active contractors, teams sponsored, and financial assistance recipients.
- Ensure that each organization performing work for the program, including all active contractors has an approved QMP for that specific organization implemented.
- Ensure that QA policies are established and QA requirements are reflected in internal and external program guidance, monitoring budgets, program plans and operating plans.
- Ensure that QAPPs are developed for all environmental data operations and environmental technology conducted by or on behalf of SFD and are properly reviewed and approved prior to initiation of the project.
- Ensure that defined systematic planning (i.e. the DQO) process and established acceptance criteria are used for monitoring projects.
- Oversee that appropriate corrective actions resulted from either internal or external audits are taken.
- Ensure that requirements on documenting and implementing quality systems for State and local agencies, Indian Tribal governments and other entities that have extramural agreements with Region 5 SFD are met.
- Ensure that the SFD QAPP review/approval process is established and the QAPP approval authority is designated.
- Ensure program specific QA and QC training needs for all level of management and staff is identified and provided.
- Ensure that performance plans for supervisors, senior managers, and appropriate staff contain a critical element that is commensurate with the quality management responsibilities assigned by the Order and SFD QMP.
- Ensure that Federal agencies and state, local and tribal governments performing environmental data collection activities for EPA are provided training in the fundamental concepts and practices of quality management and QA/QC that they may be expect to perform.

- Ensure that QA resources are adequate to achieve Regional and program goals.
- Ensure that peer review is conducted and documented as appropriate.

1.4 Dispute Resolution

Oversight responsibilities for QA and QC activities may sometimes result in disagreements between the oversight group and the program reviewed/assessed regarding the results of the activity. Such disputes may occur in situations involving technical issues (or technical disputes) and management issues (management system disputes). The dispute shall be resolved at the lowest management level practical.

All parties should make every effort to resolve disputes through discussion and negotiation. Disagreement should be resolved at the lowest administrative level possible. If an agreement cannot be reached at this level, the issue will be resolved by the Division/Office Director. The Regional QAM is available for consultation on technical issues related to quality system implementation.

If the disputed issue has potential ramifications on Regional QA policy, the SFD QAM, can raise the issue to the attention of the RQAM. The issue can be discussed including options for resolution at the quarterly RQAT or a special RQAT meeting called by the RQAM. The primary goal of such a meeting would be to reach in a timely manner a consensus agreement among the RQAT members and recommend an affirmation or revision of the Regional QA policy to Region 5 senior management.

2.0 QUALITY SYSTEM COMPONENTS

The complexity of environmental data operations demands that a systematic process and structure be established to provide decision makers with the necessary confidence in the quality of data produced for the decision to be made, as well as with the means to determine when the data are not fully usable and what to do about the situation. SFD will ensure compliance with the requirements of the EPA CIO 2105.0, EPA CIO 2105-P-01-0 and ASQ/ANSI E4, and *EPA QA/R-2, U.S. EPA Requirements for Quality Management Plans, March 2001/reissued May 2006*, Detailed QA procedures and measurement system are documented in the following sections.

2.1 QMP Preparation Responsibilities, Approval and Review

The Superfund Division is complying with the EPA CIO 2105.0, EPA CIO 2105-P-01-0 and ASQ/ANSI E4 which require a QMP to be the blueprint for planning, implementing, and evaluating a QA program for the environmental work to be performed. EPA QA/R-2, applies to external entities (Federal, State and local agencies; Indian Tribal governments; other extramural agreements and other parties to enforcement actions) acting on EPA's behalf.

2.1.1 Superfund Division QMP

The SFD QAM, assisted by the SFDQA staff, is responsible for preparing the divisional QMP to cover all environmental data operations within the division. The QAM distributes the QMP to Branch Chiefs for review/comment, and incorporates comments received. The Divisional QMP will be internally approved by Branch Chiefs and the Director, and subsequently reviewed and approved by the Regional Quality Assurance Manager (RQAM) and the Regional Administrator. The approval is valid for five years, and may be subject to revision depending on organizational and/or policy/process changes within the respective Division/Office, and findings from the quality system audits.

The SFD QAM will review the QMP on an annual basis and consult with the RQAM on the potential need to revise the QMP. Minor revisions may be needed to address updates to existing procedures or other limited issues which do not fundamentally impact the quality system. Such changes may be determined to not require review and approval by the RQAM and RA and can be reported as a component of the SFD's QA Annual Report & Work Plan (QAARWP) submitted to the RQAM.

Major revisions are required if the QMP does not truly reflect the QA processes in specific functional area, substantive changes due to EPA, Region 5 or SFD reorganizations, scope of mission and/or resources. Major revisions will require review and approval by SFD senior managers, the RQAM and the RA.

2.1.2 State Agency QMPs

Each State Agency which performs work for, or is funded through a multi-year grant/financial assistance by Region 5, shall have an approved QMP implemented for use by all staff of the State Agency. This QMP document provides information on how the State Agency's management will plan, implement and assess its Quality System to meet the Regional QA policy and QA requirements for the Superfund Program. The State Agency senior management is responsible for the development and implementation of its QMP, and for distributing its QMP to all personnel performing work for the State Agency.

The State Agencies must have a Quality System in place before performing any work for the EPA. The Superfund Division retains authority to approve all Quality Assurance Project Plans (QAPPs) for any Superfund activities. QAPPs must be approved prior to any data gathering work or use, except under circumstances requiring immediate action to protect human health and the environment, or operations conducted under police powers.

2.1.3 Indian Tribal QMPs

There are no current requirements for Indian Tribes to submit QMPs for Superfund projects. The process will be described in detail, when it becomes part of the Superfund program.

2.1.4 Contractors QMPs

Each contractor who performs work involving environmental data operation activities for, or is funded by Region 5, shall have an approved contractor's QMP which is required for awarding the contract. The contractor's QMP provides information on how the contractor's management will plan, implement, and assess its Quality System to meet the Regional QA policy and QA requirements for the Superfund Division. The contractor senior management is responsible for the development and implementation of its QMP, and for distributing it to all personnel performing work for the contractor.

The contractors' QMPs are prepared by the contractor and submitted for the review/acceptance to EPA. The QMPs will be prepared according to EPA QA/R-2. The SFD QA Staff, the Project Officer (PO) and Contracting Officer (CO) review the submitted QMPs. The SFD QA staff are responsible for reviewing the QMPs and recommending to the PO/CO the acceptance or rejection of the document. The PO and CO are responsible for acceptance of the QMPs.

2.1.5 Potentially Responsible Party Contractors' QMPs

Each contractor who performs work involving environmental data operation activities for a PRP under an enforcement order shall have an approved QMP. The contractor's QMP provides information on how the contractor's management will plan, implement, and assess its Quality System to ensure that it complies with ANSI/ASQC E4-2004,

Quality Systems for Environmental Data and Technology Programs – Requirements with Guidance for Use.

The PRP contractor's QMPs are prepared by the contractor and submitted for the review/approval to EPA. QMPs will be based on EPA QA/R-2. The SFD QA Staff are responsible for the review of the QMP.

2.2 Systematic Planning or Data Quality Objectives (DQOs) Process.

Environmental monitoring and measurement programs conducted by or for the Superfund Division are designed to produce technically and legally defensible data of a quality sufficient to support its intended use. The SFD policy is to implement systematic planning using the Data Quality Objectives (DQO) process for all projects, as appropriate, which involve environmental data operations.

The DQO process is a systematic planning tool to facilitate the planning of environmental data collection activities. DQOs are qualitative and quantitative statements developed from the DQO process. The DQOs process is a seven-step planning approach used to prepare for data collection activities. It provides a systematic approach for defining the criteria that a data collection design should satisfy, including when, where, and how to collect samples; tolerable decision error rates; and the number of samples to collect. The DQO process helps investigators ensure that the data collected are of the right type, quantity, and quality needed to support environmental decision.

The seven steps of the DQO process are:

- State the Problem
- Identify the Goals of the Study
- Identify Information Inputs
- Define the Boundaries of the Study
- Develop an Analytic Approach
- Specify Performance or Acceptance Criteria
- Develop the Plan for Obtaining Data

The DQO process will define qualitative and quantitative criteria for determining when, where and how many samples (measurements) to collect for a desired level of confidence or representativeness. The information along with sampling procedures, analytical procedures and appropriate QA/QC procedures will be documented in the QAPP. The following documents are used for the development of the DQO process for Superfund sites: *Guidance on Systematic Planning using the Data Quality Objectives Process* EPA QA/G-4, February 2006 and *Systematic Planning: A Case Study for Hazardous Waste Site Investigations* EPA QA/CS-1, February 2006.

2.3 Quality Assurance Project Plans (QAPPs)

All work performed by or for EPA Region 5 that involves the collection and use of environmental data or environmental technology will be conducted according to an Agency approved QAPP. The QAPP documents how environmental data collection operations are planned, implemented, and assessed during the life cycle of a project or task. The purpose of the QAPP is to define and detail how quality assurance and quality control activities will be implemented for a particular project. The following documents shall be used for the development of QAPPs for Region 5 Superfund sites:

- *The Uniform Federal Policy for Quality Assurance Projects Plans (UFP-QAPP),* OSWER Directive 9272.0-17; [the QAPP format can be found at https://www.epa.gov/fedfac/assuring-quality-federal-cleanups#ufp-qapp
- *EPA Requirements for Quality Assurance Project Plans EPA QA/R-5,* March 2001, Reissued May 2006, with approval from the SFD QAM or SFD QA reviewer;

The following guidance may be used in conjunction with the requirements above:

- *Guidance for Quality Management Plans*, EPA CIO 2106-G-05
- *Guidance for the Quality Assurance Project Plans* EPA QA/G-5, December 2002
- *Guidance on Choosing a Sampling Design for Environmental Data Collection EPA* QA/G-5S, December 2002.

In general, all QAPPs are reviewed and approved by QA Staff. Further discussions of circumstances that don't require QA staff approval are discussed below in Sections 2.3.1 to 2.3.4.

All Federal Facilities QAPPs are required to be submitted in the UFP-QAPP format. In limited circumstances QAPPs may follow EPA QA/R5 format with prior approval of the SFD QA reviewer or SFD QAM.

The Remedial, Removal and Brownfields programs of the SFD collect and manage environmental data. Each program has a distinct administrative process for QAPP preparation, review and approval. The following sections describe the QA responsibilities of various personnel within each program and process used to ensure that the program collects and manages data at quality levels commensurate with regulatory and policy needs.

The goals of the Remedial Program are focused on investigation and complete remediation of long-term environmental health threats. The focus of the Removal Program is on stabilization, containment, and abatement of immediate health and safety threats. It is not a goal of the Removal Program to effect final cleanups. Therefore, the data collection activities of the Removal Program differ in focus from the Remedial Program and may be subject to time

constraints of an emergency or time critical response effort. The focus of the Brownfields Program is to collect environmental data that satisfies applicable State and Federal cleanup program objectives such that vacant and abandoned properties can be put back into safe, productive use.

The Chemical Emergency Preparedness and Prevention Section (CEPP) is located in ERB1. As discussed above in Section 1.1 CEPP is responsible for implementing the regulatory/enforcement authorities under multiple statutes. Environmental data is not collected or used in carrying out these responsibilities so QAPPs are not required. Inspections are conducted in accordance with the January 2011, "Guidance for Conducting Risk Management Program Inspections under Clean Air Act Section 112(r)", EPA 550-K-11-001. The checklist used by the inspectors can be found at G:Ocepp-en/1-RMP docs/1-RMP Documents/Checklists and Inspection Report/Program Level 3.

2.3.1 Remedial Program

2.3.1.1 QAPP Preparation

In the Remedial Program the responsibility for QAPP preparation will depend on the project lead designation. QAPPs, for sites which are PRP - lead, will be prepared by the PRP or their contractor, and will require final approval by EPA Region 5 (see Section 3.3). QAPPs for Fund-lead projects will be prepared by EPA Region 5, or state agency, contractors or by the Remedial Project Manager (RPM) and will require SFD QA personnel approval.

Regardless of the project lead designation, all project teams are strongly encouraged to hold a scoping/pre-QAPP meeting including all parties involved in the project. This will include, as appropriate, representatives of the PRP or Federal Facility (including contractors, analytical laboratories etc), state agency, EPA Region 5 RPM and Region 5 staff (i.e. chemists, toxicologists, ecologists, geologists, engineers, safety specialists, statisticians, etc). During this meeting, participants will discuss project description, data quality objectives for the project, intended data usage, sampling procedures, safety issues, parameters to be tested for each sample type, analytical methods selected to achieve the project objectives and data usage, data validation, and data quality assessment. The documentation necessary for the QAPP preparation should be provided during the meeting. The RPM should prepare a summary memo of the meeting and distribute it to meeting participants and place a copy in the project file.

After the scoping/pre-QAPP meeting, a comprehensive QAPP shall be prepared according to *Uniform Federal Policy for Quality Assurance Project Plans* (UFP-QAPP), OSWER Directive 9272.0-17. The EPA QA/R5 format may be used but only after prior approval from the SFD QA reviewer. All Federal Facilities QAPPs are required to be submitted in the UFP-QAPP format. QAPPs for Brownfields may follow EPA QA/R5 format. Generally, all other QAPPs should follow the UFP-QAPP format. However, in limited circumstances the EPA QA/R5 formats may be used, but only after prior approval from the SFD QA reviewer.

In accordance with *EPA QA/R-5, EPA Requirements for Quality Assurance Project Plans, (March 2001, reissued May 2006)*:

"For programs or projects of long duration, such as multi-year monitoring programs or projects using a generic QA Project Plan, the QA Project Plans shall be reviewed at least annually by the EPA Project Manager (or authorized representative). When revisions are necessary, the QA Project Plan must be revised and resubmitted for review and approval."

Project managers should document the completion of the periodic reviews, e.g. email or letter, stating a review was completed and either that no changes are warranted, or that a revision is necessary.

2.3.1.2 QAPP Review

QAPP package shall be submitted to U.S. EPA Region 5 for SFD QA Staff review and approval. A complete QAPP package shall include a copy of the QAPP, the sampling plan and the work plan.

2.3.1.2.1 PRP-Lead, Fund-Lead and Federal Facility QAPPs

Upon receipt of the QAPP package, the RPM will conduct a preliminary screening of the QAPP. An example of a QAPP review checklist in Attachment C could be used as screening tool by the RPM. Further, the overall QAPP review time may be shortened if the QAPP preparer completes and includes the example QAPP review checklist (attachment C) with the QAPP package. The preliminary screening ensures that the QAPP contains the necessary QAPP elements. If the initial draft does not contain the necessary QAPP elements, it is returned to the QAPP preparer for corrections. If all QAPP elements appear to be present, the RPM submits the complete QAPP package along with a QAPP review request form, (Attachment B), to the SFD QAM/Science and Quality Assurance Section Chief for assignment to QA Staff for review and comment. The QAPP review form should provide the following information: Site Name, Site ID, Action Code, Operable Unit, State, Lead (PRP, Fund, and State), RPM's name and phone number, and a requested completion date. RPMs, during their screening, are responsible for identifying the laboratories specified in the QAPP.

Upon receipt by the SFD QAM, each document is logged in and assigned a review number. The SFD QAM will assign a QA staff reviewer for the project. If the date requested for the completion of a QAPP review cannot be met, the QAM may meet with the appropriate Remedial Branch Chief to discuss priority setting. The QAM may assign a review to a qualified third party contractor, or other qualified EPA personnel, however, formal approval shall be given by SFD QA staff or the SFD QAM.

If the QAPP is not approvable after the review, the QA staff reviewer will identify specific

deficiencies and provide specific recommendations for corrections. The written comments will be sent to RPM. If there are no deficiencies, the QA staff reviewer will approve the QAPP and notify the QAM of the approval for input into the SFD QA data tracking system.

2.3.1.3 QAPP Approval

2.3.1.3.1 PRP-Lead Fund-Lead and Federal Facility QAPPs

If after review of the original submittal QA Staff have no comments, or find no required changes, they will approve the document in writing following the procedures discussed below. Upon receipt of QAPP comments from the QA Staff Reviewer, the RPM will review the comments to see if further clarifications with the reviewers before transmitting to the QAPP preparer are necessary. When clarification is necessary, the RPM will first discuss the comments with the QA Staff reviewer and then transmit the comments to the QAPP preparer. A meeting or conference call with appropriate parties involved in QAPP preparation process may also be held prior to revising the document. Such a meeting or conference call can be held upon suggestion of the RPM or request of the QAPP preparer.

The RPM will review the revised QAPP submitted by the QAPP preparer. The QAPP revision should consist of, when practical, only those pages revised. Revised pages must be marked per document control format.

The RPM will send the revised QAPP back to the SFD QAM for assignment to QA Staff for review and approval. The QA staff reviewer sends the approval memo to the RPM.

The date of the approval memo will be the entered as the QAPP approval date in Quality Assurance Data Tracking System data files. The information from the QAPP review request form along with the QAPP approval date is entered into a computer data base maintained by the SFD QAM. The Quality Assurance Data Tracking System data files can be found at R:\VDBApps\QAMP Tracker\QAPP.exe. The SFD sample coordinator can also check to ensure that an approved QAPP is in place prior to scheduling fund lead project samples for analysis.

2.3.2 Removal Program

As established by EPA Policy and Section 300.415 of the NCP, there are three types of removal actions: emergency, time critical and non-time critical. In the case of emergencies, such as spill responses, immediate action is required to protect human health and the environment. Time critical removal actions are defined based on a removal site evaluation as those which must be initiated within six months. Non-time critical actions are those defined as actions that take more than six months to plan and initiate. Non-time critical actions require that an engineering evaluation/cost analysis (EE/CA) be prepared to analyze removal alternatives for the site and allow for public comment for the removal alternatives. The OSC for each site determines what

sampling is necessary in the field during the removal action or removal site evaluation.

2.3.2.1 Emergency Responses

For an emergency response where environmental sampling will be conducted, an Emergency Response Field Sampling Plan (FSP), including all field SOPs, should be prepared for Fund lead and PRP lead projects. An example of an Emergency Response FSP is contained in Attachment D. At a minimum, within 30 days after the response date a QA Sampling Report (or equivalent) shall be submitted for documentation. The QA Sampling Report shall describe the sampling event by containing the types of information that would have been included in the FSP.

2.3.2.2 Time Critical and Non-Time Critical Responses

40 CFR 300.415(b)(4)(ii)(a, b) or CIO 2105.0 (formerly 5360.1 A2) requires that for time critical and non-time critical removals, where environmental sampling will be conducted, a Sampling and Analysis Plan (SAP) be prepared for fund lead and PRP lead projects. Per the NCP, the SAP consists of two parts, a Field Sampling Plan (FSP) and a Quality Assurance Project Plan (QAPP). EPA Office of Solid Waste and Emergency Response (OSWER) guidance, *Changes in Quality Assurance Policies for the Removal Program, July 2006* (OSWER 9360.4-20FS), states that to satisfy the NCP requirement, a site specific FSP should be generated for each time critical and non-time critical removal action. The removal site evaluation is part of both time and non-time critical removal actions, thus the SAP requirement applies. It also states that for fund lead removals the QAPP portion of the SAP requirement in the NCP can be satisfied jointly by a branch level programmatic QAPP (Branch QAPP) and a Response Specific QA Sampling Plan.

2.3.2.2.1 Branch Level QAPP

The Branch QAPP addresses only those elements generic to all Removal activities within the Region. In Region 5 SFD, a contract wide QAPP is prepared by each SFD Emergency Response Branch (ERBs) contractor for fundlead emergency response and removal action work. The QAPP shall be prepared according to Uniform Federal Policy for Quality Assurance Project Plans (UFP-QAPP), or EPA QA/R5 format. The EPA QA/R5 format may only be used after prior approval from the SFD QA reviewer. Each QAPP is reviewed by the SFD QA staff and approved upon contract award. These QAPPs cover the broad range of work that is routinely performed under the Emergency Rapid Response Service (ERRS) and Superfund Technical Assessment & Response Team (START) contracts. SFD ERBs adopt these documents as the Branch Level QAPPs to satisfy the NCP requirement. The Branch QAPP is reviewed annually and updated periodically to reflect operational changes.

2.3.2.2.2 Field Sampling Plan (Response Specific QA Sampling Plan)

For each project, the contractor generates a site specific FSP to accompany the Branch Level QAPP that EPA approves. For time and non-time critical removals within the R5 SFD ERBs, the

site specific FSP shall also serve as the Response Specific QA Sampling Plan. It shall reference the branch level QAPP, as appropriate, and include relevant, site specific information not in the branch QAPP, but required in a QAPP. The FSP shall be reviewed and approved by SFD QA staff, or other qualified EPA personnel, as approved by the SFD QAM. The date of the approval memo from the QA Staff to the OSC will serve as the QAPP approval date.

2.3.2.3 PRP Lead Responses

As a clarification, for PRP lead projects, the term "non-complex removal work" is used in CERCLA Administrative Settlement Agreement and Order on Consent for Removal Actions (ASAOC). The ASAOC requirement for "Quality Assurance and Sampling" requires the respondent(s) to: "prepare a QAPP as part of the work plan, except in circumstances involving emergency or non-complex removal work". For these purposes non-complex time critical removal sites are those sites that do not require environmental sampling to confirm the extent of contamination or cleanup. Such non-complex removal sites may include radiation, mercury, or caustic spill sites when field instruments are used exclusively to make cleanup decisions. The OSC may waive the QAPP requirement for the PRP or fund lead non-complex removal sites. OSC's shall document waiver decisions in the site file.

For PRP Lead projects requiring QAPPs, the QAPP shall be prepared according to Uniform Federal Policy for Quality Assurance Project Plans (UFP-QAPP), or EPA QA/R5 format. The EPA QA/R5 format may be used after prior approval from the SFD QA reviewer**.** The site-specific QAPP shall be submitted to the SFD QAM for review and approval.

2.3.2.4 Removal QAPP and FSP Review and Approval Tracking

All QAPPs and FSPs requiring EPA review and approval shall be submitted to the SFD QAM for review and approval, using the SFD QAPP review request form. The information from the QAPP review request form along with the QAPP approval date is entered into a computer data base maintained by the SFD QAM.

2.3.3 Brownfields - Federally Funded Assessments under the Small Business Liability Relief and Brownfields Revitalization Act of 2002

2.3.3.1 Brownfield (BF) Assessments Performed by States and Tribes (128(a))

Several of the Region 5 States and Indian Tribal governments currently conduct Site Specific Assessments (SSAs, aka TBAs) under their 128(a) brownfield (BF) cooperative agreements (CA). These SSAs can include a Phase I, (or All Appropriate Inquiry, AAI assessments), which does not include environmental sampling, and a Phase II assessment, which includes environmental sampling. All of the Region 5 States have approved multi-site (generic) QAPPs for Superfund Site Assessment and Brownfields Assessments which were approved by the SFD.

These QAPPs were originally created for Superfund Site Assessment work, but were subsequently revised to incorporate the requirements for the assessment of BF sites. Early on, the BF program made use of the EPA's National Contract Laboratory Program (CLP), however, after a few years, the CLP was no longer funded by the Region 5 BF program. Consequently, the States performing SSAs were required to contract out for the analytical services. Some States now use their State labs, while others use laboratories that had already been contracted for other programs. Currently, five of the six Region 5 States continue to perform these SSAs/TBAs under their 128(a) CAs. As Indian Tribal governments build their capacity to perform site specific work, multi-site QAPPs are developed after a scoping call is conducted by BF staff. These QAPPs are approved by the Region 5 EPA project manager and BF QA reviewer. Site specific sampling plans and site eligibility determinations are prepared by the States and Tribes and submitted to the BF project manager for review and approval.

The Superfund Division reorganized in January 2006, and the BF program and Superfund Site Assessment programs were split apart and moved to separate branches within the Division. Consequently, as these combined SF/BF QAPPs are updated, they will become separate documents. The two Brownfields and NPL Reuse Sections (BNRS) are part of the Land Revitalization Branch (LRB), and manage the State and Tribal 128(a) BF CAs and all of the 104(k) competitive CAs. The BNR sections have one project manager designated as the "BF QA reviewer", who is trained in quality assurance. This QA reviewer coordinates and conducts the QAPP scoping calls and reviews/approves all BF QAPPs completed for the BF program (all 128(a) and 104(k) CAs). These QAPPs are logged into the SFD QA Document Tracking System (QADTS).

2.3.3.2 BF Assessments Performed by an EPA Contractor

Each Region has Targeted Brownfield Assessment (TBA) money that can be utilized to perform assessments for communities that request an assessment at a BF property. These assessments are typically performed for communities that do not have EPA BF assessment CAs. These TBAs can be requested by Tribes, cities, or county governments. Region 5 currently uses one contractor to perform TBA work. The contractor completed a multi-site QAPP approved by EPA. Since TBAs can be performed in any of the R5 states, and different parameters and labs may be used for each project, a QAPP addendum and Sampling and Analysis Plan (SAP) is submitted for EPA approval for each new property to be assessed. These QAPP addenda are approved by the Region 5 EPA project manager and the EPA BF QA reviewer and logged into the SFD QADTS. A site specific sampling plan is also prepared, and approved by EPA.

2.3.3.3 BF Assessments Performed by 104(k) Cooperative Agreement Recipients (CARs)

The BF program awards competitive cooperative agreements (aka BF Assessment Grants) to local governments, coalitions of local governments, states and tribes to perform Phase I and Phase II assessments. These recipients may receive awards to conduct assessments at sites contaminated with either or both hazardous substances and petroleum. These CARs participate

in a scoping call/meeting with Region 5 EPA BF staff to discuss the preparation of the multi-site QAPP. Once the multi-site QAPP is approved by the EPA project manager and EPA BF QA reviewer, the CAR submits a site eligibility determination to the Region 5 EPA project manager for review, and site specific sampling plans to the Region 5 EPA project manager for approval. QAPPs for these multi-year cooperative agreements must be kept up to date throughout the life of the agreements, and this is accomplished through annual update letters that are provided to the EPA BF project manager and BF QA reviewer and kept with the original QAPP.

2.3.3.4 Brownfields Cleanups Performed by 104(k) CARs

The BF program awards competitive site specific cleanup CAs (aka BF Cleanup Grants) to local governments, non-profit organizations, states and tribes in the amount of $200,000 per site/property. The majority of these sites are enrolled by the CAR in the States' voluntary remediation or Brownfields programs. These projects must meet all of the programmatic requirements of the CA, which includes an analysis of Brownfield cleanup alternatives (ABCA), a public comment period for the cleanup plan, the creation of an administrative record within the community, and documentation (generally a 'no further action, NFA' or equivalent letter) from the State that the cleanup is complete and meets all State requirements. The State reviews and approves all QA documents submitted under the CA. The quality assurance requirements for the State program must be documented and adhered to (in lieu of an EPA approved QAPP) and all State required QA and cleanup documents must be sent to the EPA project manager at the same time as these documents are sent to the State for approval. The State is the overseer/approver of these cleanups, which occur within the context of the State program. Region 5 EPA has Memoranda of Agreements (MOA) with each of the R5 State voluntary cleanup programs recognizing these cleanup actions and agreeing that under ordinary circumstances EPA's SF program will not take enforcement actions at sites where the release is cleaned up under a State voluntary program.

2.3.3.5 Brownfields 104(k) Cleanup Revolving Loan Fund (BCRLF or RLF) Cooperative Agreements

The BF program awards competitive RLF CAs to State and local governments to capitalize an RLF for the purpose of providing low cost loans for BF cleanups. The CARs can use up to 50% of their award to provide sub-grants to clean up eligible sites by eligible entities (local governments and non-profits), per their EPA approved workplans. The majority of the sites cleaned up under the RLF are enrolled in the States' voluntary remediation or Brownfields programs. These projects must meet all of the programmatic requirements of the CA, which includes an analysis of Brownfield cleanup alternatives, a public comment period for the cleanup plan, the creation of an administrative record within the community, and documentation (generally a 'no further action, NFA' or equivalent letter) from the State that the cleanup is complete and meets all State requirements. The State reviews and approves all QA and cleanup documents submitted under the CA. The quality assurance requirements for the State program must be documented and adhered to (in lieu of an EPA approved QAPP) and all State required

QA and cleanup documents must be sent to the EPA project manager at the same time as these documents are sent to the State for approval. The State is the overseer/approver of these cleanups, which occur within the context of the State program. EPA Region 5 has Memoranda of Agreements (MOA) with each of the R5 State voluntary cleanup programs recognizing these cleanup actions and agreeing that under ordinary circumstances EPA's SF program will not take enforcement actions at sites where the release is cleaned up under a State voluntary program.

2.3.3.6 Brownfields 104(k) Area Wide Planning (AWP) CAs

The BF program has awarded competitive area wide planning (AWP) cooperative agreements to local governments and non-profits for the purpose of developing an area wide plan for the implementation of strategies for assessing, cleaning up, reusing brownfields site(s), and revitalizing the project area. The AWP CAR's workplan may include gathering and using previously generated environmental reports/data to document existing environmental conditions in the area of concern. AWP projects that conduct research to identify, gather and compile previously generated environmental reports/data will provide a Quality Assurance letter (in lieu of a full QAPP) to the EPA for review and approval, documenting: the qualifications of the reviewers of the reports/data; how the reports will be used; how they will insure that the information/data summarized is appropriately qualified (as to its original purpose, date of collection, etc.) and used in a manner consistent with its generation.

2.3.4 Traditional Site Assessment

Site Assessment activities (pre-National Priority List site characterizations) are performed by Region 5 states and EPA START contractors. Generic QAPPs have been developed by states for these entities. These QAPPs will be modified to reflect changes in mission as necessary and approved by a SFD QA reviewer. Site specific sampling plans are prepared for each site investigated and reviewed by Site Assessment staff.

2.4 Standard Operating Procedures (SOPs)

Standard operating procedures (SOPs) are written documents that thoroughly describe the steps taken to complete an operation, analysis or action with thoroughly prescribed techniques and steps. Regional routine technical and administrative activities will be documented in an SOP to ensure consistency in the quality of the product. The SOPs will include thoroughly described steps and techniques, will be sufficiently clear to be understood by a person knowledgeable in the general concept of the procedure, and will be officially approved as the method for performing certain routine or repetitive tasks. The primary guidance document for the preparation of SOPs is *Guidance for Preparing Standard Operating Procedures* EPA QA/G-6, April 2007. For the purposes of this QMP SOPs are divided into two categories; non- EPA QA Field Activities Procedure (QAFAP) and QAFAP. The U.S. EPA Regional Science & Technology (RS&T) Field Operations Group (FOG) developed ten operational guidelines for field activities (FOG

Guidelines) to ensure consistency in managing field practices and to reduce potential vulnerabilities. Section 2.4.2 addresses the requirements for all field activities covered by those guidelines and the subsequently developed *CIO 2105-P-02.0 EPA QA Field Activities Procedure (September 2014)* (QAFAP). Currently the QAFAP requirements only cover work performed by EPA field personnel. All other SOPs addressing non- field related activities or work performed by non-EPA personnel is covered under Section 2.4.1, Non QAFAP SOPs.

In general, the SOP is implemented by staff performing the activity, process or procedure to which the SOP pertains. It is the responsibility of the individual users of an SOP to follow the procedures contained in the SOP or to document any deviations. It is the responsibility of managers to ensure that specific SOPs that pertain to their program operations are implemented. The implementation of QA-related SOPs is a responsibility of the SFD QAM. It is the responsibility of project managers/officers to ensure that SOPs referenced in specific QAPPs are implemented. The implementation of SOPs and SOP revisions will be assessed through internal MSRs, QSAs, TSAs, etc.

2.4.1 Non-QAFAP SOPs

All SOPs shall be reviewed and approved by the manager of the organization within the respective Branch/Section originating the SOPs. All SOPs shall be reviewed at least every 2 years to ensure continuous improvement. When revisions of SOPs are completed, it is the responsibility of each Branch/Section management to ensure that obsolete SOPs are removed from the SFD intranet pages, Sharepoint sites, or other storage areas, and to notify managers and staff (i.e. via e-mail) regarding the newly revised SOPs. Internal assessments will verify the implementation of new or revised SOPs and that obsolete hardcopy versions of SOPs, where applicable, have been removed.

In Region 5, the QAPP is the essential documentation for all monitoring tasks. However, an organization that has responsibility for a segment of the monitoring task may have SOPs on file with the SFD QA staff that have been previously reviewed and been found acceptable. Such a SOP or a segment of a SOP (e.g., laboratory analytical procedure, procedure for sample collection, etc.) that is related to the element of the QAPP may be referenced in the QAPP. The QAPP may also contain an SOP or that segment of the SOP as an appendix that relates to the task covered if SOPs are not on file. The SOP will be reviewed by the respective program QA staff along with the QAPP for approval/disapproval.

An organization (Regional Program Offices, State Agencies, Indian Tribal Governments, and local governments), which is responsible for a series of continuous routine environmental monitoring tasks may prepare a QAPP to cover all these activities, which the QA staff will review and approve. In this instance, a QAPP will include a series of SOPs used for these continuous environmental monitoring activities. Revisions are made per regulatory or programmatic changes, and should be approved by the SFD QA staff.

2.4.1.1 SOP Elements

The format of an SOP varies with the nature of the activity, process or procedure. The following provides the general format of SOP for laboratory analysis, sample collection, and others:

Laboratory Analysis SOPs:
(1) Scope and Application
(2) Method Summary
(3) Definitions
(4) Sample Collection, Handling and Preservation
(5) Interferences
(6) Safety
(7) Equipment/Material/Reagents
(8) Calibration
(9) Procedures (Sample preparation/extraction, and sample analysis)
(10) Calculations
(11) QA/QC
(12) Data Reporting Requirements
(13) References

Field Sample Collection SOPs:
(1) Scope and Application
(2) Method Summary
(3) Definitions
(4) Sampling Equipment/Apparatus
(5) Safety
(6) Sample Containers and QC Procedures
(7) Preservatives
(8) Procedures
(9) QA/QC and Chain-of-Custody
(10) Documentation and Reporting
(11) References

General SOP Format:
(1) Scope and Application
(2) Equipment and Resources
(3) Procedures
(4) Documentation and Reporting
(5) QA/QC requirements if applicable
(6) References

2.4.2 Region 5 SFD QAFAP SOPs

The U.S. EPA Regional Science & Technology (RS&T) Field Operations Group (FOG) developed ten operational guidelines for field activities (FOG Guidelines) to ensure consistency in managing field practices and to reduce potential vulnerabilities. The FOG Guidelines are based on best practices for data collection as determined by EPA field groups, EPA quality requirements, and concepts of management systems established by the International Organization for Standardization (ISO) including ISO 17025 and 17020. They are intended to apply to any field activities such as sampling, measurements, and observations used by EPA for any purpose, such as routine ambient monitoring, research, clean-ups, risk management, studying new/revised regulations, screening, compliance monitoring, and enforcement.

The FOG Guidelines provide the foundation for ensuring the quality of the data generated by EPA and used for decision making. If the data quality is compromised at any point from collection to reporting, costly mistakes could result and undermine the Agency's sound science foundation. Therefore, it is of great importance that all data within the Agency be generated using consistent processes.

The FOG Guidelines are minimum requirements for establishing a quality management system to support field activities for the Agency. The basis of the FOG Guidelines is CIO 2105.0 and Agency QMPs as required under CIO 2105-P-01-0 and EPA QA/R2. As CIO 2105.0 applies to all programs that collect, evaluate, and use environmental data for EPA, the FOG Guidelines were developed specifically for implementing field activities under CIO 2105.0. The FOG Guidelines are relevant and beneficial to all Agency organizations that collect environmental data, regardless of the data's intended use. Implementing the FOG Guidelines will reduce potential vulnerabilities and will increase EPA's ability to make reliable, cost-effective, and defensible decisions.

The FOG Guidelines have been formally incorporated into CIO 2105-P-02.0 *EPA QA Field Activities Procedure* (September 2014) (QAFAP). This CIO Procedure documents the FOG Guidelines as requirements for EPA organizations.

R5 SFD fully implemented the FOG Guidelines beginning in January 2016. The following summarizes the ten FOG guidelines:

1. **Personnel/Training**. Personnel responsible for field activities will have appropriate records documenting qualifications, education, training, experience, and competency for carrying out requirements of field activities.
2. **Document Control**. Field groups will maintain a system for the control of all documents relating to their field activities, including the preparation, review, approval, issuance, revision, revocation, and archiving of documents. Controlled documents (policies, SOPs, SOP compendiums, guidance, blank template forms, and checklists) are generated internally for each organization and describe how work will be conducted.

3. **Records Management**. Field groups will maintain a records management system to suit their particular circumstances and to comply with applicable federal, EPA, and regional records management regulations and retention schedules.
4. **Evidence Management/Sample Handling**. Evidence includes samples, measurements, and documentation, such as field notes and instrument charts. Field groups will establish and maintain procedures for the identification, transportation, handling, protection, storage, and retention of samples and other potential evidence during field studies in accordance with federal criteria for various types of evidence.
5. **Field Documentation**. Field groups will establish and maintain procedures to document all field activities to ensure the credibility of all observational, measurement, photographic, and sample collection information.
6. **Field Equipment**. Field groups will establish and maintain procedures for field equipment to ensure all equipment is properly identified, maintained, and calibrated.
7. **Field Inspections and Investigations**. Field groups will establish and maintain procedures for planning field investigations and inspections, taking into consideration all applicable EPA and program-specific requirements.
8. **Reports**. Field groups will establish and maintain a procedure describing minimum standards for the preparation of a written report to summarize results of field activities and compliance inspections.
9. **Internal Audits**. Field groups will establish procedures to conduct internal audits to verify that their operations comply with these guidelines. The personnel performing the audits will be qualified and independent from the functions being audited whenever possible.
10. **Corrective Actions**. Field groups will establish and maintain a procedure for addressing findings from internal audits through corrective actions whenever nonconformities with these guidelines are identified.

To comply with the FOG Guidelines Region 5 developed guidelines for the preparation of Field SOPs which are accessible on Region 5's Field Operations Sharepoint site: https://usepa.sharepoint.com/sites/R5_Work/fieldops/controlleddocs/SitePages/Home.aspx. These guidelines include:

- R5-REG-001-r0 Preparing Field SOP Documents (aka SOP for R5 Field Operation SOPs)
- R5-FQPForm-001-r0 R5 Administrative-Programmatic Field SOP Template
- R5-FQPForm-002-r0 R5 Technical Field SOP Template

All new (2014 and later) Region 5 field operations SOPs will adhere to the above SOPs and templates. As older field SOPs are reviewed prior to revision, those SOPs will adhere to the new SOP elements and templates

2.5 Technical Assessment

An assessment is a formal evaluation of performance to predetermined standards, and documentation of audit results to affect change toward improved performance, and include the technical system audit and performance evaluation.

A Technical System Audit (TSA) is a thorough, systematic on-site qualitative inspection of facilities, equipment, personnel, training, procedures, record-keeping, quality control practice and data validation, data management, and reporting aspects of a system. The technical system audit applies to both the laboratory audit and the field inspection.

The TSAs are performed before the data collection activities to verify the existence, and to evaluate the adequacy of equipment, facilities, supplies, personnel, and procedures documented in the QAPPs. Additional system audits (e.g., field audits of sample collections, laboratory analysis, etc.) may be conducted during the data collection activity as needed.

Technical system audits will be requested by the Project Managers at the time the draft QAPP for the project has been developed and written, and will be scheduled by the QAM. The audit request will include information such as the nature of the project, the project needs (e.g., the type of monitoring activity, monitoring parameters, procedures to be used, etc.). The QAPP serves as the benchmark for the audit. The audit check list will be used for field and laboratory audits.

A performance test (PT) is defined as the use of samples of known composition and concentration that is randomly or systematically incorporated into the measurement system to check the analytical procedure. These samples are used to control and evaluate the accuracy and precision of the measurement systems, and to determine whether QA objectives of the project have been met. These PT samples can be introduced into the measurement system as single blind (the composition is known, but concentration is not) or as double blind (both composition and concentration are unknown). A PT sample is sometimes called a performance evaluation (PE) sample.

The RPM shall make the request, through the Superfund QA staff**,** for a performance evaluation when the draft QAPP for the project has been developed and written. The performance evaluation request will identify the monitoring parameters, analytical methods/procedures to be used, the required detection limits, and the facility (i.e., name and address of the laboratory) that will provide the analytical services. Performance evaluation of the laboratory for approval/ disapproval will be performed before the initiation of the data collection activity. The QAPP will serve as the benchmark for the survey officer to decide what evaluation materials are to be used. The frequency of evaluation will be determined based on the needs, past experience with a particular sampling and analysis procedures, or past performance of a particular laboratory.

2.6 Data Quality Assessment (DQA)

Data Quality Assessment (DQA) process includes both the qualitative review of the project to determine if project-specific QA/QC practices are followed and project objectives are achieved, and the statistical analysis of data to determine if data obtained from environmental data operations are of the right type, quality, and quantity to support their intended use. A complete or partial DQA can be performed during the assessment phase of data life cycle, which includes the planning, the implementation and the assessment phases. DQA is used to determine if the planning objectives were achieved. During the DQA, the data are first validated and verified to ensure that the sampling and analysis protocols specified in the QAPP were followed, and that measurement systems performed in accordance with the criteria specified in the QAPP, and then proceed to using the validated data set to determine if the quality of the data is satisfactory.

The DQA process is built on the fundamental premise that Data Quality is meaningful only in context of the intended use of data, by the decision maker. The results of DQA should be used for two specific purposes. First, for the specific decision, it can be used in making recommendations to the decision maker to modify portions of the DQOs. Secondly, it can be used as a guide for the planning and acquisition of supplemental data for this project and potentially for other related projects. Data users such as RPMs/OSCs are responsible for initiation and implementation of DQA activities, as necessary.

The DQA process involves three major areas that begin with a review of the planning documentation and end with the answer to the question posed during the planning phase of the study:

1. Project implementation: Evaluate the field activities (Chain of Custody (COC); number of samples collected and QC samples collected; method used for collection; holding times; etc.) and laboratory analysis (parameters reported; holding times; etc.).

2. Conformance to approved performance criteria: Evaluate the field and laboratory data through reviewing the data sets to determine the conformance to the requirements specified in the approved QAPPs. RPMs/OSCs are responsible for initiating the data review/validation request to the respective program QA personnel. Data will be assessed in terms of their precision, accuracy, representativeness, completeness, comparability (PARCC).

The Data Validation will be performed using the following documents:

- "USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review" OLEM 9355.0-136, EPA-540-R-2017-002, January 2017, or more current revision;
- "USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review" OLEM 9355.0-135, EPA-540-R-2017-001, January 2017, or more current revision;
- "USEPA Contract Laboratory Program National Functional Guidelines for High

Resolution Superfund Methods Data Review," OLEM 9200.3-115, EPA-542-B-16-001, April 2016

- QAPP approved Data Validation Guidance to determine the conformance to the technical and quality specifications for all the measurements that described in approved QAPP, and provide written reports to the RPMs/OSCs.

At this time there is not a similar program in place, like the CLP, to assess the quality of radioanalytic data. Validation of radiological data is initiated by the RPMs/OSCs with a request to the respective program QA personnel or other qualified data validators Data validation of radioanalytic data and procedures is performed by validators with the following documents:

- "Multi-Agency Radiological Laboratory Analytical Protocols (MARLAP) Manual," EPA 402-B-04-001A, July 2004.
- "Eastern Environmental Radiation Facility Radiochemistry Procedures Manual," EPA 520/5-84-006, August 1984;
- "Radiochemical Analytical Procedures for Analysis of Environmental Samples," EPA 1979;
- "Environmental Measurement Laboratory Procedures Manual," DOE HASL-300-Ed.27;
- "Laboratory Data Validation Guidelines for Evaluating Radionuclide Analysis, SAIC", September, 1992.

The Multi-Agency Radiological Laboratory Analytical Protocols (MARLAP) manual provides guidance for the planning, implementation, and assessment of projects that require the laboratory analysis of radionuclides. MARLAP's basic goal is to provide guidance for project planners, managers, and laboratory personnel to ensure that radioanalytical laboratory data will meet a project's or program's data requirements. To attain this goal, the manual offers a framework for national consistency in the form of a performance-based approach for meeting data requirements that is scientifically rigorous and flexible enough to be applied to a diversity of projects and programs. The guidance in MARLAP is designed to help ensure the generation of radioanalytical data of known quality, appropriate for its intended use. Examples of data collection activities that MARLAP supports include site characterization, site cleanup and compliance demonstration, decommissioning of nuclear facilities, emergency response, remedial and removal actions, effluent monitoring of licensed facilities, environmental site monitoring, background studies, and waste management activities.

3. Achievement of project objectives: Evaluates whether the specific objectives are met; the overall project objectives are met; regulatory decision can be made; data support original DQOs.

DQAs will be conducted and used on the project by project basis. Data Quality Assessment: A Reviewer's Guide, EPA QA/G-9R, February 2006 and Data Quality Assessment: Statistical Tool for Practitioners, EPA QA/G-9R, February 2006 should be used as guides.

2.7 Information Quality Guidelines (IQG)

The U.S. Office of Management and Budget, at the direction of Congress, issued guidelines in 2002 for federal agencies to issue agency-specific implementing guidelines to allow the public to obtain correction of information maintained and disseminated by the respective federal agency. EPA's Information Quality Guidelines (IQG) "Guidelines for Ensuring and Maximizing the Quality, Objectivity, Utility, and Integrity of Information Disseminated by the Environmental Protection Agency" was issued in October 2002 http://www.epa.gov/quality/informationguidelines and states the Agency's policies and procedures for information which the agency disseminates to the public including pre-dissemination reviews (PDR). Further, the IQG provides procedures for the public to request for correction (RFC) of disseminated information.

IQG is intended to complement EPA's Agency-wide Quality System, Peer Review Policy and other Agency policies and processes to assure the quality of EPA's products and information. The IQG defines the scope of information as well as dissemination. Information encompasses any communication or representation of knowledge such as facts or data, in any medium or form. Dissemination takes place when EPA initiates or sponsors the distribution of information to the public.

The Region 5 and SFD QMPs incorporate by reference all definitions, principles, policies and procedures stated in the IQG. Region 5 complies with IQG using existing Regional processes or procedures wherever possible. Region 5's IQG PDR checklist http://www.r5intra.epa.gov/Off/OSEA/IQG/predissemination.pdf applies to all Region 5 information work products covered by the IQG. Region 5's IQG Officer, in the Resources Management Division (RMD), is the Region's IQG lead and is supported by Division IQG contacts including a SFD IQG contact. The SFD IQG is located in Remedial Response Section 2 and coordinates SFD's responses to IQG requests. EPA's Office of Environmental Information (OEI), as Agency lead, coordinates with Region 5's IQG Officer, the affected Division's IQG contact and Division staff to respond to RFCs involving Region 5.

2.8 Peer Review

Regional Order RV 2150.1 was issued on October 5, 2000, to assure the high quality of scientific and technical work products issued by Region 5. The Order addressed the requirements of the EPA Science Policy Council Peer Review Handbook to ensure that peer review of work products is properly and consistently performed, that each decision as to whether to conduct a peer review is properly documented, that documentation produced during the peer review process, records of approval for final reports, final reports, and supporting data are obtained in the appropriate manner and for the appropriate time, and that release or publication or Regional work products

that have been peer reviewed is authorized by appropriate decision maker. The Superfund Division will fully implement Regional Order RV 2150.1. The Superfund Division Director serves as the decision maker for peer review.

3.0 PERSONNEL QUALIFICATION AND TRAINING

EPA policy requires that personnel performing work on environmental programs shall be qualified to perform assigned work including and according to any project-specific requirements. Normal EPA hiring practices specify hiring based upon qualifications specified at the time of recruitment. However, during an employee's career, job requirements change and additional training may become necessary.

3.1 QA Training for SFD Staff

The application of sound QA policies and procedures requires that all staff, including RPMs, OSCs, field personnel, and data processors that generate or use environmental data are provided with an appropriate level of QA training commensurate with their duties.

First-line supervisors are responsible for ensuring that each employee with a QA related assignment has the necessary qualifications and proficiency for the work assigned. It is a responsibility of line management to discuss QA training needs with personnel involved in environmentally related data gathering activities during the midyear and annual performance evaluation process. SFD uses EPA Individual Development Plans (IDPs) and management input to identify training needs. If desired by staff, IDPs are developed and updated at least annually.

A QA training requirement should appear within the standards of the SFD QA Team staff, as appropriate. Training priorities should be scheduled with management approval.

Management is ultimately responsible for the quality of data. Therefore, it is critical that managers and supervisors receive the necessary training to ensure their understanding of the importance of QA, their responsibilities as managers of environmental data collection activities, and specific QA policies and procedures. In-house training/refresher for RPMs and OSCs, will be provided by SFD QA personnel annually and as appropriate for new updates in QA policies and procedures. SFD QA staff will participate in all Regional QA training as appropriate.

The SFD QA staff will maintain and update a library of pertinent QA documentation and links to assist SFD technical staff.

3.2 QA Training and Experience for SFD QA Staff

The SFD QA Staff have more specialized QA training and experience requirements than do other SFD staff. In general, they are expected to have substantive training and experience in EPA quality systems including Superfund QA requirements. Typically, training and experience will include QAPP preparation/review/approval, environmental sampling & analytical chemistry, and conducting technical assessments. Some QA staff will also have training and experience in areas such as data validation, preparation/review/approval of QMPs and conducting quality system assessments which may be necessary for their specific QA responsibilities.

The SFD QA staff may attend national QA meetings such as the EPA Annual Conference on Managing Environmental Quality Systems and/or the EPA QA Training Conference in order to maintain their expertise in current Agency & program QA requirements and guidance. Such conferences will also provide the opportunity to attend specialized training /workshops, to participate in Agency QA-related workgroups and to participate in discussions on future changes to Agency QA requirements.

3.3 QAPP Approval Authority within SFD

SFD QA staff and the QAM have the authority to approve QAPPS following successful completion of applicable training and QA experience as noted previously in Sections 3.1 and 3.2. The SFD QAM will assess new SFD QA staff's training and experience with respect to their ability to review and approve QAPPs.

3.4 Other Technical Training

Other programmatic and technical/safety training is necessary for Superfund Division staff to satisfactorily perform their jobs. Health and safety training is required for personnel who engage in field activities by EPA Order 1440.2 and consists of an initial 40 hours of training together with annual 8-hour refreshers. RPMs and OSCs are required to attend appropriate courses offered by the CERCLA Education Center (i.e., Fundamentals of Superfund, Remedial Process, Removal Process, Enforcement Process, Federal Facilities Remediation, and Innovative Treatment Technologies). Project Officers, Work Assignment Managers, and Delivery Order Officers are required to take contract administration training and periodic recertification. Courses offered by the Environmental Response Training Program are recommended as appropriate. One course highly recommended is the Sampling for Hazardous Material (165.9). This course is designed to be consistent with the EPA protocol and "Guidance on Systematic Planning using the Data Quality Objectives Process" EPA QA/G-4, February 2006. EPA Order 3500.1 establishes Agency-wide training and development requirements for employees leading compliance inspections. These requirements are to ensure that inspectors have working knowledge of regulatory requirements, inspection methodology, and health and safety measures. Training requirements apply to all persons who lead compliance inspections under any EPA statute. In SFD, inspections reside in ECAB and ERB1 (RMP Inspectors, EPCRA Inspectors, and SPCC/FRP Inspectors). The training program consists of: occupational health and safety curriculum; basic inspector curriculum; and program-specific curriculum. Once trained, inspectors are issued EPA credentials authorizing them to perform inspections on EPA's behalf. These credentials are issued or re-issued on a periodic basis. The credentials process is outlined in EPA Order 3510.

4.0 PROCUREMENT OF ITEMS AND SERVICES

SFD must ensure that the items and services it procures are procured in accordance with EPA regulations, delivered in a timely fashion, and are within the required specifications. The following sections will provide general guidance on SFD procurement procedures. Due to the changes to 48CFR, new pre-award and post-award QA review forms are required for all work assignments under existing contracts and for all newly issued contracts. The forms are included in Attachment B. The QA review forms are prepared and approved by the contract project officer, the SFD QAM, the QA Staff, and the work assignment manager, as appropriate.

4.1 Procurement of Items

SFD utilizes the services of the EPA Region 5 Acquisition Section of the Acquisition and Assistance Branch for most procurement of items. This Section follows the guidelines developed in the Federal Acquisition Regulations (FAR) Section 13 which establishes government-wide policies and procedures governing the acquisition process. The EPA 1900 Contract Management Manual (Revised April 2004) has been developed to supplement the FAR. Region 5 is required to implement the regulations in these documents. EPA generally attempts to purchase through FAR mandatory sources (i.e., GSA). Therefore, items on the FAR sources list that meet the minimum specifications on the procurement request (EPA Form 1900-8) must be purchased through a FAR source. Procurement of computer hardware and software follows somewhat different regulations. Computer procurement processes will be developed by the SFD PC-DOC, located in the DBMS, and will adhere to Region 5 policy.

All procurements are documented using the procurement request form (EPA Form 1900-8). Instructions are included with the form. A purchasing agent will inform the originator of the item that most closely matches his/her request that is available from the FAR mandatory sources. Manufactures names and models are helpful if the description is incomplete. This does not mean that the brand name will be ordered. A purchasing agent may complete a purchase on a brand name or equals specifications. If the item available from the mandatory source does not meet specifications, and no substitute is adequate, a purchasing agent will help the originator process a Waiver Request. However, if the item's total price is less than $2,000 and the type of items are not available through mandatory sources, the purchasing agent may buy from the suggested source.

Procurement request forms will be reviewed by the supervisor for completeness and accuracy and routed through SFD required approvals. Funds are certified as available by the Budget and Finance Section which assigns a document control number (DCN). The procurement request is then sent to the Property Management Officer and to other Resources Management Division personnel (e.g., safety officer, senior resource information officer, etc.) as appropriate for approval. It is then sent to the Acquisition Section for action.

Tracking of item receipt of receivables is very important, since EPA is required under the Prompt

Payment Act to pay vendors 30 days after receipt of the invoice or the item, whichever is later. Procured items are delivered to the EPA Region 5 warehouse or the Superfund warehouse in Willowbrook or the Superfund office in Grosse Ile, Michigan. The warehouse receiving clerks distribute the items to the person designated in the procurement request form. All equipment is inspected at the time of receipt to identify defects or inoperativeness.

Selected SFD staff may also procure low cost (up to $2500) items utilizing a government purchase card. These individuals have received the necessary training and authorization to receive a delegation of procurement authority. Inspection of the items purchased is made upon receipt of the items.

4.2 Procurement of Services

4.2.1 Procurement of Contractual Services in Superfund for Remedial Program

In the SFD, contracts are used to obtain technical services to be used within the Superfund and buy-ins from other Regions or Divisions on a limited basis. Contracts are awarded according to the FAR Section 13 and the EPA Contracts Management Manual. Together, these documents establish government-wide policies and procedures governing the acquisition process.

Contracts specific to Superfund Remedial Action include the Remedial Action Contracts (RACs), Enforcement Support Services (ESS), Superfund Technical Assistance Team (STAT), and the Regional Oversight Contracts (ROC). The responsibility for administering these contracts rests with the RPMs, POs, Contract Specialists (CSs) and Contracting Officers (COs). To serve on these contracts, the above individuals must meet the qualifications outlined in f the EPA, *Environmental Protection Agency Acquisition Guide (EPAAG)*. These qualifications include the required training, experience, and workload limitations.

To access these contracts, the RPMs must identify through a Statement of Work (SOW) the specific services/support they are seeking. The individual SOWs must be written according to the overall provisions of each contract and must be accompanied by an Action Memo and/or an Independent Government Cost Estimate (IGCE), whichever is appropriate. To fund the services, the RPMs are asked to plan and document their financial needs in the Superfund Enterprise Management System (SEMS). This planning helps to ensure that funding requests are identified and available when needed. All procurements are documented in EPA's Acquisition System (EAS) which is available at http://easinfo.epa.gov/.

Funding packages are created in EAS and are reviewed by the POs and Superfund management for completeness and accuracy. The funding package is then forwarded to Budget where the Procurement Request is assigned a document control number (DCN). The package is subsequently sent to CO who is the sole individual authorized to procure contractual services on behalf of EPA. The Federal Government is not bound by any commitments made by other than the CO.

The QA Review Forms (QARFs) are required component of the contracts management process as defined in the EPA Contract Management Manual. Region 5's QARF, which shall be used for pre- and post-award of contracts, are included in the Attachment B.

The QARF is intended to ensure that all key players (Contracting Officer's Representative (COR), Project Officer (PO) and designated Division QA Staff) have reviewed a contract solicitation or a specific work assignment and evaluated whether environmental data operations (including environmental technologies and models) are included in the assignment. The COR is responsible for completing the QARF and submitting it to the SFD QAM for review. The creator of the funding package in EAS (either the PO or the COR) is responsible for including a copy of the signed QARF in the funding package. If environmental data operations are included, the QARF must specify the most appropriate QA documentation (i.e. QAPP, QMP) or additional QA activity (i.e. lab audit) required prior to award or at some specific timeframe during post-award. If the scope of work for the work assignment has been evaluated by the COR, PO and designated Division QA staff and determined not to involve environmental data operations, the completion of the QARF is greatly simplified.

Once the funds and services are procured, it is primarily the responsibility of the RPMs and POs to monitor the individual work assignments issued under the umbrella contract to ensure that the government is receiving quality service at a reasonable cost. This is accomplished, in part, through:

1) Review and documentation of the monthly progress reports and invoices;
2) A required QAPP for sampling;
3) Annual contractor performance evaluations.

For monitoring the remedial contracts in Superfund, the Division requires the RPMs to utilize on electronic invoice review process on Sharepoint. The RPM reviews a copy of the technical status report and voucher that they receive from the contractor. Then they access the sharepoint site to review the reasonableness of costs and technical quality of the work based on the contractor's monthly invoice and monthly progress report. The invoices and monthly progress reports are also reviewed by the POs for completeness, reasonableness and accuracy.

To ensure the quality of sampling activities undertaken either by the remedial contractors or the PRPs, EPA requires that all sampling be conducted in accordance with the EPA approved QAPP. The remedial contractors are evaluated annually. This gives the RPMs and the POs the opportunity to document the technical quality of the contractor's services as well as its timeliness and costs.

All program personnel must be aware of "personal services" which are characterized by an employer-employee relationship between government and contractor employees. These contracts are illegal in EPA unless specifically authorized. Personnel services conflicts arise when

government employees assume the right to instruct, supervise, or control a contractor's employee in how he or she performs work. It is the contractor's right to hire and terminate, to assign, and to organize and implement tasks as the contracting organization deems appropriate. The program may tell the contractor what to do within the terms and agreements of the contract, but not how to do it.

4.2.1.1 Remedial Action Framework (RAF)

EPA is in the process of developing a new suite of contracts to retain technical services to be used in the SFD in the future. This section will be revised to include the process once the new suite of contracts is in place.

4.2.2 Procurement of Contractual Services in Superfund for Removal Program

In the SFD, contracts are used to obtain technical services to be used within the Superfund and buy-ins from other Regions or Divisions on a limited basis. Contracts are awarded according to the FAR Section 13 and EPA Contracts Management Manual. Together, these documents establish government-wide policies and procedures governing the acquisition process.

Contracts specific to the Removal Program include START and ERRS.

The responsibility for administering these contracts rests with the Task Monitors (TMs), OSCs, Work Assignment Managers (WAMs), RPMs, POs, CSs and COs. To serve on these contracts, the above individuals must meet the qualifications outlined in Chapter 7 of the EPA Contracts Manual (EPA-1900). These qualifications include the required training, experience, and workload limitations.

4.2.2.1 START

For the START contract, the TM must provide the PO with a SOW and an estimate of the effort required. This SOW must be in conformance with the START contract SOW. The START contract is bulk funded for the removal program. Other programs wishing to use START resources may buy-in to the contract if the work required falls within the contract scope. The TMs are usually on the site with the START members and monitor contractor performance daily. The TMs review START monthly progress reports on a monthly basis and complete a form documenting contractor performance. TMs may also participate in the monthly START meeting. This meeting is held to discuss schedules, budgets, and any pending issues.

4.2.2.2 ERRS

The ERB Branch Chiefs must approve all ERRS funding requests. The Remedial Branch Chiefs may approve the Remedial Program buy-ins to the ERRS contract. Other Divisions (GLNPO), regions may also buy-in to the Region 5 ERRS Contract. ERRS Project Officers assist in the

facilitation of the buy-ins. Those funding sources are outside the ERB Branch Chiefs and approved accordingly. In those instances, ERRS PO's facilitate the buy-ins and ensure processes and procedures requested by the CO's is applied.

OSCs will request ERRS funding through their Section Chief. The ERRS PO will then be notified when the funding request is approved by the appropriate Branch Chief.
For Time-Critical Removal Actions, Records Center personnel or the OSC's forward to the ERRS PO a copy of the Action Memo which includes a 'Proposed Action Description' and an Independent Government Cost Estimate (IGCE). Based upon the amount of funding approved by the Removal Managers, the ERRS PO's enter the relevant information into the EAS System. The Proposed Action Description in the Action Memo is utilized to complete a SOW. The ERRS PO also completes an IGCE based upon the IGCE in the Action Memo and the amount of funding approved by the Removal Managers. For emergency response actions, the ERRS PO coordinates with the OSC and completes the SOW and IGCE.

For Time-Critical Removal Actions and emergency responses, the ERRS PO completes Purchase Requisition (PR) in EAS. The ERRS PO attaches the SOW and IGCE to the PR and enters the remaining information into the system. The ERRS PO then forwards the PR to Superfund Budget personnel who generate approval chain in the system. This generally includes Superfund Budget personnel, an ERB Branch Chief, the Deputy Division Director and the Comptroller Branch in RMD. Following approval, the CO in RMD issues the ERRS Contractor a Task Order. Several funding requests and Purchase Requisitions may be completed for a single removal action. The OSC, RPM or COR generally must be on-site to monitor the contractor during periods of significant cleanup activity including all hot zone work, emergency responses, transportation and disposal and public relations activities. Daily work orders are prepared by the OSC, RPM or COR and signed daily by the OSC, RPM or COR and the Response Manager. Costs are monitored daily.

All removal contracts performance is reviewed annually and entered into the Contractor Performance Assessment System (CPARS). The ERRS PO receives instruction from the CO on completion of reviews. For non-emergency funding requests, the Enforcement Specialist must concur that all reasonable enforcement activities have been performed.

All program personnel must be aware of "personal services" which are characterized by an employer-employee relationship between government and contractor employees. These services are prohibited at EPA, unless specifically authorized. Personal services conflicts arise when government employees assume the right to instruct, supervise, or control a contractor's employee in how he or she performs work. It is the contractor's right to hire and terminate, to assign, and to organize and implement tasks as the contracting organization deems appropriate. The program may tell the contractor what to do within the terms and agreements of the contract, but not how to do it.

4.2.3 Assistance Agreements

Assistance agreements are used when both parties (EPA and the group providing the assistance) derive benefit out of the service. This usually occurs with contracts or cooperative agreements with states and Indian tribes and with interagency agreements with other federal agencies. QA requirements are developed for all assistance agreements including environment data collection activities.

SFD follows the requirements of 40 CFR Part 35 Subpart O - Cooperative Agreements and Superfund State Contracts for Superfund State Contracts for Superfund Response Actions. SOWs for assistance agreements are usually developed jointly by the SFD Project Manager and the assistance recipient. Once the SOW is completed, the parties must agree on the quality standards for assuring the product or services. It is the responsibility of the Project Officer and SFD Project Manager to be knowledgeable of EPA QA policy and to represent these standards during development of the project's SOW.

The QA Review Forms (QARFs) shall be used to ensure that all key players including the Project Officer (PO) and designated Division QA Staff have reviewed an assistance agreement and evaluated whether environmental data operations (including environmental technologies and models) are included in the agreement. If environmental data operations are included, the QARF must specify the most appropriate QA documentation (i.e. QAPP, QMP) or additional QA activity (i.e. lab audit) required prior to award or at some specific timeframe during post-award. If the scope of work has been evaluated by the PO and designated Division QA staff and determined not to involve environmental data operations, the completion of the QARF is greatly simplified. For site-specific cooperative agreements the SFD Project Manager is responsible for completing the QARF and submitting it to the SFD QAM for signature. For multi-site and general assistance agreements (e.g. site assessment or CORE grants) the PO is responsible for completing the QARF and submitting it to the SFD QAM for signature. The PO is also responsible for ensuring that a copy of the signed QARF is included in the funding package.

Special conditions are usually included in assistance agreements. The Project Officer will list the conditions to which project participants must adhere. One of these conditions relates to QA project plans. The special conditions for pre-remedial activities are contained in 40 CFR Part 35.6055(b) (2). The special conditions for remedial activities are contained in 40 CFR Part 35.6105(a) (2) (VI).

These conditions require that participants must meet the requirements of 40 CFR Part 31.45 (quality assurance) and have an EPA approved QAPP in place before beginning field work.

4.2.4 Procurement of Analytical Services

Region 5 SFD procures analytical services through three avenues:

- EPA Regional Laboratory (CRL) and ESAT Contract
- Contract Laboratory Program (CLP)
- Analytical Services IAGs and Field Contracts/Subcontracts

4.2.4.1 EPA Regional Laboratory (CRL) and ESAT Contract

4.2.4.1.1 CRL

The Regional Laboratory System is an interdependent network of the ten regional laboratories of the EPA. The regional laboratories ensure that analytical and technical expertise are available at the regional level and are well positioned to rapidly address the ever changing needs of a variety of environmental programs. The laboratories provide a full range of routine and specialized chemical and biological testing of air, water, soil, sediment, tissue and hazardous waste for ambient and compliance monitoring as well as criminal and civil enforcement activities.

The Region 5 Chicago Regional Laboratory provides analytical services to Region 5 program offices. Regulatory methods are most commonly used, but modifications of applicable methods are sometimes necessary. Such modifications are documented and approved prior to use. Clients may request specific methods; in such cases agreement is reached between the client and the laboratory prior to analysis of samples. The CRL user requests services by submitting an Analytical Confirmation Request through the EPA Regional Sample Control Center Coordinator (RSCC). The Analytical Confirmation Request Form can be found at https://usepa.sharepoint.com/sites/R5_Work/SFDIO/RRB/SQAS/SitePages/Home.aspx. The RSCC processes the request through the CRL Quality Assurance/Sample Coordinator (QA/SC). An understanding of what the laboratory can provide is reached prior to any laboratory activity being performed.

EPA requires that all sampling and analyses be conducted in accordance with an EPA approved QAPP. To ensure this requirement is met a QAPP approval date is required on the Analytical Confirmation Request form before the request can be processed.

4.2.4.1.2 ESAT

The Environmental Services Assistance Team (ESAT) contract structure was developed to expand EPA's existing capabilities for providing hazardous waste sample analysis and related support to Superfund sites. These contractors provide multidisciplinary technical teams to each Region within their respective areas. The teams perform multi-media chemical analyses, Field Analytical Support Program activities, specialized analytical services support and data validation/data review support, review of site-specific quality assurance, site investigation and sampling plans support for the development of new analytical methods, and logistical and administrative functions.

The Region 5 ESAT contract is solicited and procured by the EPA HQ’s Analytical Services

Branch for the Superfund Program. ESAT contract staff use CRL facilities and equipment for analysis of samples for the Region 5 SFD. ESAT analysts implement approved CRL or Field Analytical Support Program SOPs. ESAT generated data is reviewed according to CRL data verification SOPs.

SFD and CRL staff serve as Contract Officer Representative (CORs) for ESAT task orders. The contract is divided into five Task Orders. The ESAT Regional Project Officer (RPO) and their alternate are located in the SFD Contracts Management Section. One ESAT COR is located in Remedial Response Section 2, one is located in the SFD Field Services Section, and 3 are located in CRL. To serve on these contracts, the RPO and CORs must meet the qualifications outlined in Chapter 7 of the EPA Contracts Management Manual. These qualifications include the required training, experience, and workload limitations. CORs review ESAT data packages for completion and acceptance and ESAT data management. CORs also prepare technical directives with concurrence of the RPO to the ESAT contractors. CORs provide the ESAT RPO with an evaluation of ESAT performance regularly, but at least annually. ESAT participates in PE programs through the SFD.

4.2.4.2 Contract Laboratory Program

The Contract Laboratories Program (CLP) is a national network of EPA personnel, commercial laboratories, and support contractors whose fundamental mission is to provide data of known and documented quality. Information regarding the CLP can be found at http://www.epa.gov/superfund/programs/clp. The Analytical Services Branch in EPA headquarters provides government oversight of all CLP activities. Regional staff serve as CLP Project Officers and Regional Sample Control Coordinators (RSCC) and provide program support and oversight activities on a day-to-day basis. The Region 5 RSCC and alternate RSCC are located in Remedial Response Section 2, and the CLP PO and alternative PO are located in the SFD Contracts Management Section. To serve on these contracts, the PO and RSCC must meet the qualifications outlined in Chapter 7 of the EPA Contracts Management Manual. These qualifications include the required training, experience, and workload limitations.

CLP analytical services begin when samples are scheduled for analysis. The CLP user requests the services by submitting an Analytical Confirmation Request through the EPA Regional Sample Control Center Coordinator (RSCC). The Analytical Confirmation Request Form can be found at the https://usepa.sharepoint.com/sites/R5_Work/SFDIO/RRB/SQAS/SitePages/Home.aspx. The RSCC contacts the Sample Management Office (SMO) via the SMO Portal found at https://epasmoweb.fedcsc.com/saml-idp/login.jsp;jsessionid=0E44AB650F12EBEB28847398A9CB41F7, a contractor-operated facility, as needed to initiate sample scheduling. SMO assigns a laboratory to perform the required sample analyses. SMO then contacts the RSCC and provides the laboratory assignment information for each case. The samples are collected by Regional samplers once a laboratory is assigned. The samples are shipped to the assigned laboratory after the sample collection process

is complete. EPA requires that all sampling and analyses be conducted in accordance with the EPA approved site-specific QAPP. To ensure this requirement is met a QAPP approval date is required on the Analytical Confirmation Request form before the request can be processed.

When the samples arrive at the assigned laboratory, the sample custodian verifies the receipt and condition of the samples and documents it on the CLP Traffic Report/Chain-of-Custody (TR/COC) form. The laboratory contacts SMO for resolution if there are any issues regarding the samples. SMO documents all communication with the laboratory. Unless otherwise directed by EPA, the laboratory proceeds with the sample analyses according to the appropriate CLP Statement of Work (SOW).

The data are reviewed by SMO and the Region after the laboratory performs the required analyses. The Region reviews analytical data using the National Functional Guidelines for Data Review to determine whether additional action is necessary.

4.2.4.3 Analytical Services IAGs and Field Contracts/Subcontracts

Analytical services may be procured through IAGs and contracts and/or subcontracts as described above in Section 4.2.1 Procurement of Contractual Services in Superfund for Remedial Program, and Section 4.2.2 Procurement of Contractual Services in Superfund for Removal Program.

5.0 DOCUMENTATION AND RECORDS

Managing recorded information is an important responsibility of every Federal agency. Like other resources, documents must be managed properly for the agency to function effectively and comply with Federal laws and regulations. According to Federal law (44 U.S.C.2901), records management means:

The managerial activities involved with respect to records creation, records maintenance and use, and records disposition in order to achieve adequate and proper documentation of the policies and transactions of the Federal Government and effective and economical management of agency operations.

Agency record keeping requirements apply to both the creation and maintenance of records as set forth in the National Archives and Records Administration (NARA) Regulations (36 CFR Part 1222).

5.1 Document Control

The SFD has a centralized facility for the secure storage, maintenance, retrieval and circulation of Superfund documents. Records are stored at this facility to provide consistency in the way the agency site related records are managed, provide greater efficiency in the filing and retrieving of these documents, increase security, comply with NARA disposition schedules, and improve utilization of available space. This facility is staffed through a record management contract (RMSS). Procedures for assuring the adherence to these regulations are contained in "The Superfund Procedures Manual". This manual is updated on a quarterly basis by the Superfund Record Officer.

The SFD has designated a full-time Records Officer (RO) who is responsible for the maintenance of the SFD Record Center and its holdings. The RO is also responsible for the control of Confidential Business Information (CBI) and acts as the Document Control Officer (DCO). The SFD has also named an Assistant Records Officer/Assistant DCO who functions as the back up in the Records Center to assist the RO in monitoring the contract staff and providing technical direction. The RO and Assistant RO are responsible to:

- Provide training to SFD personnel on the procedures for the use of the record center.
- Coordinate the development of the Administrative Record (AR) for Superfund sites.
- Work with SFD contract staff for retention of PO files.
- Maintain work performance documentations for future cost recovery.
- Provide yearly training on CBI and AR regulations.

All personnel who potentially may be required to handle CBI materials are required to complete the annual CBI training. The RO sends out an annual CERCLA Training notice to the entire division and collects training notice completions from those staffers throughout the division who

complete the training.

It is ultimately the responsibility of the RPM/OSC to file all site related documents in the Record Center; however, procedures have been developed to have outside contractors send closed work assignments directly to the Records Officer in the record center. Work assignment-related documents are shipped to the RO's attention, with an enclosed, completed submittal form (see Attachment F) communicating the preferred disposition of the documents, such as scanning, inclusion in the site file, etc. This procedure captures all documents pertaining to a site, and allows the records center staff to control duplication of documentation.

5.2 Document Preparation, Review, and Approval

Procedures to be used for document preparation, review and approval will depend upon the type of document. For example, an internal document will have different preparation, review, and approval requirements than an external document. Document procedures will be determined by the task lead and immediate supervisor.

The files and records pertaining to QAPP/Data Validation reviews, including the QA Document Tracking System reports providing the status of documents submitted for the review to the SFD QAM are maintained by the QAM.

6.0 COMPUTER HARDWARE AND SOFTWARE

The SFD periodically conducts analysis on computer hardware needs. The analysis includes (but is not limited to) interviews with major database users, evaluation of present hardware, evaluation of new hardware, and communication with the DBMS and RMD's IMB about changes in Regional hardware, systems or Information Resources Management (IRM) standards that would impact the SFD. A needs analysis is usually conducted by the Division's PC-Division/Office Coordinator (PC-DOC) in conjunction with the DBMS, which has responsibility for the program's major databases.

Changes to computer hardware are usually made on an annual basis due to the structure of the budget cycle. The PC-DOC is responsible for purchasing all new computers (with a few minor exceptions). By having all computer hardware purchases funneled through the PC-DOC, the Division ensures that only the most appropriate equipment is purchased.

DBMS is responsible for the Division's software development, which include the development of internal applications to meet specific user needs. DBMS staff works very closely with requesters to ensure that the application being developed is workable and meets the requestor's needs. The software developers are responsible for developing all documentation for their applications, maintaining them over time through fixes, updates, etc., and periodically reviewing the software's applicability with the requestor. Attachment G is a Program Inventory of major programs and databases used in the SFD.

Commercial software is evaluated by the requester or by the PC-DOC. A requestor can specify software based on their own analyses and needs. Also, the PC-DOC will evaluate user needs and purchase commercial software to meet those needs. In both cases a needs analysis is conducted first, and then different types, brands or versions of commercial software are evaluated to determine how well they meet those needs.

Meeting the IRM requirements pertaining to national databases and applications are the responsibilities of the National Superfund Office, since they are responsible for developing such applications. IRM requirements that pertain to the Division data and information are maintained by the DBMS. The DBMS has the regional responsibility for meeting IRM standards. DBMS staff in collaboration with the Superfund PC-DOC work to ensure that software developed in-house meets the necessary standards, and that data management practices and procedures follow IRM guidelines.

7.0 PLANNING

It is SFD policy that activities for collecting environmentally related data are planned effectively such that data or information collected meets the need and expected quality for their desired use. Quality planning must occur at different levels to ensure that data meets the SFD programmatic and quality goals:

- Program Specific
- Project Specific

7.1 Program Specific

Superfund Divisional Programs covered by this management plan are:

- Remedial Program
- Removal Program
- Brownfields

Developing DQOs when initiating a new program or incorporating major changes is a mandatory component of QA planning at the program level. DQOs at the program level include all sources of error (e.g., design, sampling, measurement, or indicator error) that will accumulate and affect the interpretation of Superfund data. Program level DQOs are defined by their ability to meet SFD program objectives discussed with desired certainty (allowable total error). As discussed in Section 2.3, the acceptable level of all sources of error established by decision makers is in the DQOs. Data Quality Objectives are used as performance criteria for assessment of data quality for their adequacy in determining status and trends. The following documents are used for the implementation of the DQO process for Superfund sites: "Guidance on Systematic Planning using the Data Quality Objectives Process" EPA QA/G-4, February 2006; and "Systematic Planning: A Case Study for Hazardous Waste Site Investigations", February 2006.

It is critical to include this QMP as part of the planning when modifying existing programs or designing new programs. Although this QMP outlines the minimum QA requirements for Superfund programs, it is likely that some of the programs covered by this QMP may need more QA specificity and detail for implementing their programs. In that case, supplemental QA components should be developed as an addendum to this QMP. This addendum will be included as appendices in future revisions of this QMP.

7.2 Project Level Planning

A project is an organized set of activities within a program. The planning process will identify the project staff including the designated project manager who will guide the planning activities. The designated project manager will identify all participants involved in or related to the planning activity. The planning process will include developing a description of the project goal,

objectives, and questions and issues to be addressed by the project. The QAPP is a primary vehicle for documenting the required level of data quality for the project. Section 2.3 describes the process used to develop and prepare a QAPP. QAPP planning documentation should identify the personnel responsible for all components of the QAPP. Remedial Project Managers (RPMs) and On-Scene Coordinators (OSCs) will be responsible for the development of these components. As part of the project planning, RPMs and OSCs will develop schedules for development, review and completion of required documentation, including adherence to the Agency policy on peer review. Appropriate reviewers of the documentation should be identified.

The QA staff may be included in the project planning process, and may assist the RPM, PM, or OSC to determine the need of statistical assistance. The QA staff will review the draft project QAPP. Sections 2.3.1 and 2.3.2 describe the review and approval process. QA practices being used should be reflected as a well-defined activity in each project plan involving the collection or use of environmental data.

A systematic planning process is used in Superfund projects to answer the following project planning questions:

- ***What is the problem and how does it relate to the Superfund Mission?***

Verbal statements of the general problem should be narrowed into succinct questions that are unambiguous and can be answered with specific data.

- ***Once the questions are defined, what are the variables that answer the questions?***

This process tries to define the smallest set of variables necessary to answer the specific questions raised in the first step. Then, these variables can be assembled into precise project objectives that illustrate how the variables will be measured and combined to answer the questions.

- ***What is the allowable level of uncertainty permitted that still enables the questions to be answered?***

This step is necessary for the development of sampling design (i.e., where to sample, how many samples to collect, methods of analysis, etc.) and for the development of QA project requirements to reduce the uncertainty to allowable limits.

- ***Who are the customers and what are their expectations?***

The customers that will utilize the information must be identified. The plan must identify what types of information are needed (e.g., summary information, detailed trends, graphs, geographic information system, etc.). This information will assist the project leaders in focusing the project objectives, as well as determining the necessary data quality.

- ***Who are the suppliers and what are their responsibilities?***

Details on the organizations participating in the project and their responsibilities are required to ensure that important phases and operations of the program are not overlooked. Project elements should typically include: management, design, implementation, methods development, planning and budget, information management, reporting, and QA.

In developing QAPPs and DQOs for various projects, SFD managers should understand that each data collection activity must produce statistical valid data in order to meet both program and project-level objectives. During the planning stage of a remedial project, the RPM may often include a statistician to help planners determine how the measurement data will be used to answer the project's questions. Various design scenarios can be developed to assist planners in utilizing their resources in the most efficient manner, while maintaining an adequate level of data quality.

7.3 Existing Data

In determining what data must be collected, the first step should be evaluation of existing data to determine if they meet project needs. Existing data (aka secondary data, non-direct measurements, and acquired data) is data or information not collected in conjunction with a current project but is being used to implement a current environmental project or reach environmental decisions. Such data or information must meet at least one of the following characteristics:

- collected for different purposes; and/or
- obtained or compiled from non-measurement sources such as computer databases, programs, scientific literature, and historical databases.

Other sources of existing data may include available database, published literature, reports, and handbooks, results from unpublished research, data generated and submitted by third parties, data from state and local monitoring programs, data generated from existing models, results from pilot studies, existing maps, land surveys, etc.

The quality of existing data must be assessed prior to its use for a new project to ensure that it is of the appropriate quality for the intended use. Since existing data will directly impact the quality of the project results or environmental decision, it is subject to the same quality system requirement for environmental data as defined in the Region 5 and SFD QMP.

8.0 IMPLEMENTATION OF WORK PROCESSES

8.1 Program Implementation

All programs that collect environmentally related data shall document their QA procedures and develop appropriate SOPs for their program.

All SOPs shall be documented in writing and made accessible to all persons involved in the implementation of the program. If a SOP or written documentation of those SOPs does not exist for a particular program, it is the responsibility of the management of that program to ensure that needed SOPs are developed and made available to program staff.

Where the program uses data generated by others, it must develop criteria and process with which to evaluate the acceptability of the data supplied. This ensures that the data fit within the margin of error constraints, as established by EPA program management. These criteria should also consider the intended use of the data.

8.2 Project Level Implementation

The Work Plan and quality products outlined in the QAPP will be implemented as approved. Any changes to the QAPP will be documented and the QAPP amended. Any amendments to the QAPP will need to be reviewed and approved by the RPM or OSC and QA staff as appropriate. The project time line should include specific target dates for QA/QC products (e.g., QAPP development, auditing time-lines) so that progress and completion of the QA/QC activities can be tracked.

To ensure the quality of sampling activities undertaken either by the remedial/removal contractors or the PRPs, EPA requires that all sampling performed under EPA oversight be conducted in accordance with an EPA approved QAPP or, in exigent circumstances, other QA documentation, as appropriate.

The RPM/OSC should place the final approved QAPP, with all required signatures, in the site files, and as appropriate, the Administrative Record for the site.

The information from the QAPP review request form along with the QAPP approval date is entered into a computer data base maintained by the SFD QAM, which is also accessible by any of the SFD QA reviewers.

Site assessment work is also performed by Region 5 states and Remedial Action Contract (RAC) contractors. A generic QAPP has been developed by each of these separate entities, and has been approved. Site assessment work performed by the START contractor will be conducted under the START generic QAPP. Site specific sampling plans are prepared for each site sampled by the state and RAC contractors.

Managers and QA reviewers are responsible for ensuring that specific requirements of reports on the QA products are included in every work assignment and task delivery order that involves environmentally related data collection.

9.0 ASSESSMENT AND RESPONSE

An assessment is a formal evaluation of performance to predetermined standards, and documentation of audit results to effect change toward improved performance. Audits are the principal means used by EPA to determine compliance and to control systems in a real-time manner to improve performance.

9.1 Annual Review of the Quality Assurance Management Plan

The QA procedures described in the QMP will be assessed annually and updated as necessary. The Quality Assurance Manager, assisted by the QA staff, will be responsible for coordinating this effort and ensuring that appropriate changes are incorporated into the QMP. Each manager will be responsible for ensuring that appropriate staff participates in the review of the Division-wide QA program as well as reviewing any addenda to the QMP. The program-specific changes will be provided to the QAM or QA staff for incorporation into QMP. All Branch Chiefs, the Deputy Division Director and the Division Director will review and approve changes to the SFD QMP before their submittal to RQAM.

9.2 Audits and Assessment

Internal and external audits and assessment will be the principal means for determining compliance with and effectiveness of the QA control system defined in the SFD QMP. Internal audits and assessment are conducted by the SFD staff. External audits and assessment are conducted by RQAC or SFD contractors. Internal audits and assessment should be conducted by teams of QA and technical staff at frequencies sufficient to ensure that appropriate QA measures are being implemented. External audits are conducted by an outside organization at the request of SFD management. If auditing resources are limited, an environmental data collection program or activities that are highly visible or those that produce results used in rule making, policy decisions, or to support litigation will be given priority. Senior managers from each Branch, with assistance from the QAM, are responsible for establishing audit procedures to meet the specialized needs of Superfund program. Audits of the SFD programs and activities are to be conducted in accordance with EPA QA/G-7, "Guidance on Technical Audits and Related Assessments for Environmental Data Operations (EPA/600/R-99/080)", and other pre-established protocols, including "Management System Review Questionnaire". Links to the EPA QA/G-7 document, the questionnaire and other protocols can be found at http://r5intradev.epa.gov/div/sfd/joomla/index.php?option=com_content&view=category&layout=blog&id=272&Itemid=787

9.2.1 Technical System Audits (TSA)

A TSA is a thorough, systematic on-site qualitative inspection of facilities, equipment, personnel, training, procedures, record-keeping, quality control practice and data validation, data management, and reporting aspects of field and laboratory activities**.**

The TSAs are performed prior to the data collection activities in order to verify the existence and to evaluate the adequacy of equipment, facilities, supplies, personnel, and procedures that have been documented in the QAPPs. Additional system audits (e.g., field audits of sample collections, laboratory analysis, etc.) may be conducted during the data collection activity as needed project-by-project basis. The RPM will be informed during the pre-QAPP meeting about importance of TSA. The SFD QA staff will conduct the field audits for states and for the RAC contractors using a review check list. The SFD SOP will be followed for submitting the PE samples to the laboratories and for data validation of the PE sample results. For CLP laboratory audits, CLP protocols will be followed.

TSAs may be requested by the RPMs at the time the draft QAPP for the project has been developed and written. The TSA request will be made to the QAM and will include information such as the nature of the project, the project needs (e.g., the type of monitoring activity, monitoring parameters, procedures to be used, etc.). The QAPP serves as the benchmark for the audit. The respective program QA staff will be responsible for conducting the audits, and documenting the audit results.

9.2.2 Performance Evaluation (PE)

A performance test (PT) is defined as the use of samples of known composition and concentration that is randomly or systematically incorporated into the measurement system to check the analytical procedure. These samples are used to control and evaluate the accuracy and precision of the measurement systems, and to determine whether QA objectives of the project have been met. These PT samples can be introduced into the measurement system as single blind (the composition is known, but concentration is not) or as double blind (both composition and concentration are unknown). A PT sample is sometimes called a performance evaluation (PE) sample.

The RPM may make the request, through the SFD QAM**,** for a PT when the draft QAPP for the project has been developed and written. The PE request shall identify the monitoring parameters, analytical methods/procedures to be used, the required detection limits, and the facility (i.e., name and address of the laboratory) that will provide the analytical services. PT of the laboratory for approval/disapproval shall be performed prior to the initiation of the data collection activity. The respective program QA person will schedule the evaluation. The QAPP will serve as the benchmark for survey officer to determine what evaluation materials are to be used. The frequency of evaluation shall be determined based on the needs, past experience with a particular sampling and analysis procedures and Agency guidelines, and past performance of a particular laboratory.

9.2.3 Quality System Assessment (QSA)

A QSA is an on-site evaluation to assess the organization’s internal management structure and its

documents to determine whether the organization is implementing a satisfactory QA program. It is used to determine the effectiveness of, and adherence to the QA program, and the adequacy of resources and personnel provided to achieve the required data quality.

A QSA of the QA program will include reviews of, at a minimum, the implementation of the following items:

- An assessment of the overall effectiveness of the QA management system, as measured by its adherence to the approved QMP.
- Project planning procedures including the use of DQO development process.
- Procedures for QA project plan development, preparation, review and approval.
- Procedures for developing and approval of standard operating procedures (SOPs).
- Procedures for conducting internal audits.
- Responsibilities and authorities of the various line managers and the quality assurance program manager for carrying out the QA program.
- The degree of management support.
- Procedures for document control and records keeping.
- Tracking systems for assuring the implemented QA program is operating, and the corrective actions to the deficiencies uncovered during the audits have been properly taken.

Internal QSA within SFD is conducted by the SFD QA staff. The internal SFD QSA will be conducted at a rate of at least one SFD program element (e.g., Remedial or Removal program) per year such that all SFD program elements have been reviewed within a 3-year cycle. Both positive and negative findings will be used in the preparation of the QSA report. The appropriate managers should respond in writing addressing the corrective action for identified deficiencies and approximate implementation dates.

External QSA of the SFD and other Region 5 media programs are the responsibility of the Regional QA Manager and the Regional QA Core. The external QSAs will be conducted at a rate of at least one Division per year such that all Region 5 media programs have been reviewed within a 5-year cycle.

QSA of Region 5 is the responsibility of Office of Environmental Information Quality Assurance Staff. QSA of Region 5 will be based upon the current approved Region 5 QMP as well as the Division and Office QMPs.

General guidance used by EPA for conducting QSAs is presented in the Guidance on Assessing Quality Systems EPA QA/G-3 (March 2003).

9.2.4 Data Quality Assessment (DQA)

The Data Quality Assessment process includes both the qualitative review of the project to

determine if project-specific QA/QC practices are followed and project objectives are achieved, and the statistical analysis of data to determine if data obtained from environmental data operations are of the right type, quality, and quantity to support their intended use and quantitative evaluation of the documentation and procedures associated with environmental measurements to verify that the resulting data are of acceptable quality. A complete or partial DQA process can be performed during the assessment phase of data life cycle, which includes the planning, the implementation and the assessment phases. DQA is used to determine if the planning objectives were achieved. See Section 2.6 for the details. During the DQA, the data is first validated and verified to ensure that the sampling and analysis protocols specified in the QAPP were followed, and that measurement systems performed in accordance with the criteria specified in the QAPP. Then the validated data is reviewed to determine if the quality of the data is satisfactory.

DQAs will be conducted and utilized on project by project basis. The results of the DQA should be used for two specific purposes. First, for the specific decision, it can be used in making recommendations to the decision maker to modify portions of DQOs. Secondly, it can be used as a guide for the planning and acquisition of supplemental data for the project.

The DQA process involves three major areas that begin with a review of the planning documentation and end with the answers to the questions posed during the planning phase of the study:

1. **Project implementation**: Evaluate the following:

    - Field activities: Chain-of-Custody; holding times; number of samples and QC samples collected; number of locations sampled; method used for collection; approved procedures used; measurement conducted; and field data validation conducted,
    - Laboratory analysis: parameters reported; holding times; approved procedures used; and data validation conducted,
    - Others: field inspection conducted; PE samples analyzed and reported; independent validation performed; corrective actions appropriately implemented for both field and laboratory activities.

2. **Conformance to approved performance criteria**: Evaluate the field and laboratory data through reviewing the data sets to determine the conformance to the requirements specified in the approved QAPPs. RPMs/OSCs are responsible for initiating the data review/validation request to the respective program QA personnel. Data will be assessed in terms of their precision, accuracy, representativeness, completeness, comparability (PARCC).

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3. **Achievement of project objectives:** Evaluates the following:

- Specific objectives are met;
- The overall project objectives are met
  - Data adequacy is sufficient for overall project objectives (i.e., valid conclusion can be made)
  - Regulatory decision can be made
- The overall project objectives are achieved
  - Data support original assumptions/hypothesis
  - Data indicate the needs of establishing new assumption/hypothesis

"Data Quality Assessment: A Reviewer's Guide", EPA QA/G-9R, February 2006 and "Data Quality Assessment: Statistical Tool for Practitioners", EPA QA/G-9S, February 2006 should be used as a guide.

10. QUALITY IMPROVEMENT

The intent of this QMP is to provide the basis for integrating appropriate QA activities in a full cycle of Superfund Division programs from planning phases through the evaluation phases. If the principles outlined in the QMP are followed, problems can be detected in a timely manner, before programmatic and financial issues become critical and hinder program implementation and decision making.

10.1 Program Review

The QMP details SFD's guidance for the areas covered in each section of the document. Many sections include actions that would lead to the improvement of quality. The document will be approved by SFD Director, Deputy Division Director and all Branch chiefs, thereby demonstrating their commitment to the QMP. It is the responsibility of management and the SFD QAM to ensure that SFD staff follow the guidelines of QAMP. Superfund Division management will be responsible for identifying planning, implementing and evaluating the effectiveness of quality improvement activities at the program level.

Annually the QMP will be reviewed by the SFD QAM, QA staff, and management and modified, if needed, to reflect changing needs or additional guidance. Revisions will be noted by the change in revision number and date of the revision included in the header information and table of contents. All revisions will be distributed to each program for review/comment before implementation.

10.2 Project Reviews

It is SFD policy that the RPMs, with assistance from QA staff and other technical support staff, review project implementation at regular intervals to identify where improvements in data quality can occur. The project specific correction actions should be described in the details in Group C, Section B of the site specific QAPP or in Section 4.1.2 if the UFP format used.
Project reviews may be conducted by using the following tools:

- Technical audits;
- Data Quality Assessments;
- Peer reviews;
- Conference calls
- Meetings

It is suggested that a wrap-up meeting occur at the end of each data collection activity. Report on a preliminary audit of Data Quality should be made available for this meeting so participants can determine whether the QAPP was followed and data quality was controlled to an acceptable level. Weakness, problems and recommended corrective actions should be documented in the QA section of the final project report for future Superfund sites.

ATTACHMENT A

Glossary of Terms

A

Assessment - An all-inclusive term for an evaluation process used to measure the performance or effectiveness of a system and its elements. Some examples of assessments include: audit, inspection, management systems review, peer review, performance evaluation, quality system assessment, technical audit and surveillance, among others.

Audit - A systematic and independent examination to determine whether quality activities and related results comply with planned arrangements and whether these arrangements are implemented effectively and are suitable to achieve objectives.

B

Bias - The systematic or persistent distortion of a measurement process which causes errors with an expected sample measurement that may be different from a true value.

C

Calibration - Comparison of a measurement standard, instrument, or item with a standard or instrument of higher accuracy to detect and quantify inaccuracies and to report or eliminate those inaccuracies by adjustments.

D

Data Review/Data Verification/Data Validation – three separately-defined terms often erroneously used interchangeably. The terms refer to separate stages of assessing environmental data prior to conducting an overall data quality assessment (DQA). These terms are defined as:

- **Data Review**: an in-house (i.e. field or laboratory) examination of data to ensure that data have been recorded, transmitted and processed correctly including checks for errors in transcription, calculation, reduction and transformation as well as completeness of sampling information or losses of samples or data;
- **Data Verification**: process of evaluating completeness, correctness and conformance/compliance of a specific data set against the method, procedural or contractual requirements; and
- **Data Validation**: an analyte and sample-specific process that extends the evaluation of data beyond data verification to determine the analytical quality of a specific data set; this process should be conducted by external entities other than those who generated the data.

Data Quality Assessment (DQA) - A statistical and scientific evaluation of the data set to determine the validity and performance of the data collection design and statistical test, and to determine the adequacy of the data set for its intended use.

Data Quality Objectives (DQOs) - Qualitative and quantitative statements derived from a systematic planning process such as the DQO process. DQOs are intended to clarify study objectives, define the appropriate type of data, and specify tolerable levels of potential decision errors that will be used as the basis for establishing the quality and quantity of data needed to support decisions.

Data Quality Objectives (DQO) Process – A systematic planning tool used to facilitate the planning of environmental data operations.

Design - Specifications, drawings, design criteria, and performance requirements. Also the result of deliberate planning, analysis, mathematical manipulations, and design processes.

Document - Any compilation of information which describes, defines, specifies, reports, certifies, requires, or provides data or results pertaining to environmental programs.

E

Environmental Conditions - The description of a physical medium (i.e. air, water, soil, sediment) or biological system expressed in terms of its physical, chemical, radiological, or biological characteristics.

Environmental Data - Environmental data are any measurements or information that describe environmental processes, locations, or conditions; ecological or health effects and consequences; or the performance of ambient monitoring systems and environmental technology. Environmental data includes information collected directly from measurements, produced from models, and/or compiled from other sources such as databases or the literature. Existing data (see below) is also included under environmental data.

Environmental Data Operations - Environmental data operations is work performed to obtain, use, or report information pertaining to environmental processes and conditions. Environmental data operations are inclusive of environmental data and environmental technology.

Environmental Processes - Manufactured or natural processes which produce discharges to, or which impact, the ambient environment.

Environmental Programs - Work or activities involving the environment, including but not limited to: characterization of environmental processes and conditions; environmental monitoring; environmental research and development; the design, construction, and operation of environmental technologies; and laboratory operations on environmental samples.

Environmental Technology - Environmental technology includes all pollution devices and systems, waste treatment processes and storage facilities and site remediation technologies to remove pollutants from, or to prevent them from entering, the environment. This term applies to hardware-based systems as well as methods and techniques used for: pollution prevention; pollution reduction; and containment of pollutants to prevent further movement of the contaminants through various means (i.e. capping, solidification, vitrification and biological treatment, among others).

Existing Data - Existing data (aka historical data, secondary data, non-direct measurements and acquired data) is data or information which is not being generated or originally collected in conjunction with a current project but is being used to implement a current environmental project or reach environmental decisions. Such data or information must meet at least one of the

following characteristics:

- collected for different purpose(s); and/or
- obtained and/or compiled from non-measurement sources such as computer databases, programs, scientific literature, and historical databases.

Other sources of existing data may include available databases, published literature, reports, handbooks, results from unpublished research, data generated and submitted by third parties, data from state and local monitoring programs, data generated from existing models, results from pilot studies, existing maps, land surveys, etc.

Extramural Agreement - A legal agreement documented between EPA and an organization outside EPA for items or services to be provided. Such agreements include contracts, projects, work assignments, delivery orders, task orders, cooperative agreements, research grants, state and local grants, and EPA-funded interagency agreements.

F

Financial Assistance - A funding process provided by one organization (i.e. by U.S. EPA) to another organization for the purpose of performing work or furnishing services or items. Financial assistance mechanisms include grants, cooperative agreements, and interagency agreements.

G

Graded Approach - Graded approach is defined as the process of basing the level of details and comprehensiveness of documentation applied to environmental operations/programs according to the intended use of the results and the degree of confidence needed in the quality of results. The principle of graded approach recognizes that a 'one size fits all' approach to quality requirements will not generally work in organizations conducting activities as diverse as environmental programs and the managerial controls are applied according to the scope of the program and/or the intended use of the outputs from a process.

Applying a graded approach means that quality systems for different organizations and programs and/or QA documentation will vary according to the specific objectives and the needs of the organization. For example, the quality expectations of a fundamental research program are different from that of a regulatory compliance program because the purpose or intended use of the data is different.

Graded approach may be applied to areas of environmental programs and/or environmental data operations. Examples may include:

- Simplifying the documentation of an organization's quality system for a small grant;
- Developing a "hybrid" QMP-QAPP to sufficiently describe iterative environmental data operations such as regulatory or compliance inspections for an organization;
- Modification of systematic planning processes or QAPP documentation for research, existing data, environmental models and non-traditional environmental projects such as economic/social science analysis.

I

Independent Assessment - An assessment performed by a qualified individual, group, or organization that is not a part of the organization directly performing and accountable for the work being assessed.

Information - Per the U.S. EPA *Guidelines for Ensuring and Maximizing the Quality, Objectivity, Utility, and Integrity of Information Disseminated by the Environmental Protection Agency* U.S. EPA October 2002 www.epa.goc/quality/informationguidelines (aka the Information Quality Guidelines or IQG), *information* is defined as any communication or representation of knowledge, such as facts or data in any medium or form, which the U.S. EPA disseminates to the public. Information also includes preliminary information which EPA disseminates to the public and generally includes material which EPA disseminates through a web page. Further discussion of the IQG is provided in section 2.13 of this QMP.

J

Joint QMP/QAPP – A document that includes elements of a QAPP but also contains information and details about an organization's quality system which impacts the planned QA/QC activities. Applications may include smaller or iterative environmental data operations, basic or exploratory research and work of limited scope and/or duration (see Program QAPP).

M

Management - Those individuals within an organization who are directly responsible and accountable for planning, implementing, and assessing work.

Management Assessment - The qualitative assessment of a particular program operation and/or organization(s) to establish whether the prevailing quality management structure, policies, practices, and procedures are adequate for ensuring that the type and quality of results needed are obtained. A management assessment may either be performed by those immediately responsible for overseeing and/or performing the work (i.e., a management self-assessment) or by someone other that the group performing the work (i.e., a management independent assessment).

Management System - A structured system which describes an organization's policies, objectives, principles, organizational authority, responsibilities, accountability, and implementation plan for conducting work and producing items and services. A quality system (see below) may be one component of an organization's management systems.

Management Systems Review (MSR) - The qualitative assessment of a data collection operation and/or organization(s) to establish whether the prevailing quality management structure, policies, practices, and procedures are adequate for ensuring that the type and quality of data needed are obtained.

May - Denotes specific recommendations or non-mandatory guidance to conform to a specification which permits flexibility with regard to implementation.

Measurement and Testing Equipment - Tools, gauges, instruments, sampling devices or systems used to calibrate, measure, test, or inspect in order to control or acquire data to verify

conformance to specified requirements.

Method - A body of procedures and techniques for performing an activity (i.e. sampling, chemical analysis, quantitation) systematically presented in the order in which they are to be executed.

Must - Denotes a requirement necessary to conform to a specification. Unless otherwise specifically prohibited, alternative approaches or methods for implementing the specification may be allowed as long as the requirement is fulfilled.

O

Organization - A company, corporation, firm, enterprise, or institution, or part thereof, whether incorporated or not, public or private, that has its own functions and administration.

P

Peer Review - A documented critical review of work by qualified individuals (or organizations) who are independent of those who performed the work, but are collectively equivalent in technical expertise. A peer review is conducted to ensure that activities are technically adequate, competently performed, properly documented, and satisfy established technical and quality requirements. The peer review is an in-depth assessment of the assumptions, calculations, extrapolations, alternate interpretations, methodology, acceptance criteria, and conclusions pertaining to specific work and of the documentation that supports them.

Performance Evaluation (PE)/Proficiency Testing (PT) - A type of audit in which the quantitative data generated in a measurement system are obtained independently and compared with routinely obtained data to evaluate the proficiency of an analyst or laboratory.

Precision - A measure of mutual agreement among individual measurements of the same property, usually under prescribed similar conditions, expressed generally in terms of the standard deviation.

Process - A set of interrelated resources and activities which transforms inputs into outputs. Examples of processes include analysis, design, data collection, operation, fabrication, and calculation.

Program QAPP – A hybrid Quality Assurance Project Plan (QAPP) which includes organization descriptions with project-level iterative environmental data operations (see Joint QMP/QAPP)

Q

Quality - Quality is defined in the EPA Orders 5360.1 A2 (CIO 2105.0) and 5360 A1 (CIO 2105-P-01-0) as the features and characteristics of a product or service that bear on its ability to meet the stated or implied needs and expectations of the user. Quality is also defined per U.S. EPA's Information Quality Guidelines (October 2002) as disseminated information meeting the criteria of objectivity, integrity and utility. **Objectivity** focuses on whether the disseminated

information is being presented in an accurate, clear, complete, and unbiased manner. **Integrity** refers to security, such as protection of information from unauthorized access or revision, to ensure that the information is not compromised through corruption or falsification. **Utility** refers to the usefulness of the information to the intended users.

Quality Assurance (QA) - An integrated system of management activities involving planning, implementation, documentation, assessment, reporting, and quality improvement to ensure that a process, item, or service is of the type and quality needed and expected by the customer.

Quality Assurance Coordinator (QAC) – Equivalent to the term Quality Assurance Manager (QAM) who performs the same types of QA oversight functions at the Division or Office levels.

Quality Assurance Manager (QAM) - The individual designated by the organization's management having primary responsibility for overseeing the implementation and effectiveness of the organization's quality system. For Region 5, the Regional QAM (RQAM) is responsible for Region 5's overall quality system. Each Region 5 Division or Office designated a Division or Office QAM or QA Coordinator (QAC) who performs the QAM function for their respective Division or Office.

Quality Assurance Project Plan (QAPP) - A document describing in comprehensive detail the necessary QA, QC and other technical activities that must be implemented to ensure that the results of the work performed will satisfy the stated performance criteria.

Quality Control (QC) - The overall system of technical activities that measures the attributes and performance of a process, item, or service against defined standards to verify that they meet the stated requirements established by the customer; operational techniques and activities that are used to fulfill requirements for quality.

Quality Improvement - A management program for improving the quality of operations. Such management programs generally entail a formal mechanism for encouraging worker recommendations with timely management evaluation and feedback or implementation.

Quality Management – The aspect of an organization's overall management system which determines and implements the quality policy. Quality management includes strategic planning, allocation of resources, and other systematic activities (i.e. planning, implementation, documentation, and assessment) which pertain to the quality system.

Quality Management Plan (QMP) - A document that describes a quality system in terms of the organizational structure, policy and procedures, functional responsibilities of management and staff, lines of authority, and required interfaces for those planning, implementing, documenting, and assessing all activities conducted.

Quality System - A structured and documented management system describing the policies, objectives, principles, organizational authority, responsibilities, accountability, and

implementation plan of an organization for ensuring quality in its work processes and work products (i.e. items and services). The quality system provides the framework for planning, implementing, documenting, and assessing work performed by the organization and for carrying out required QA and QC activities.

Quality System Assessment (QSA) – Similar in nature to a management systems review (MSR) defined above, the QSA is a more focused assessment conducted of an established quality system.

R

Record - A document which provides objective evidence of an item or process. Records may include photographs, drawings, magnetic tape, books, maps, and other data recording media. Records also include electronic messages (i.e. e-mail) if it documents activities related to EPA's mission or provides evidence of an EPA business transaction.

Regional Quality Assurance Manager (RQAM) – The person designated by senior management in each U.S. EPA Region to oversee the implementation and effectiveness of the Region's quality system (also see Quality Assurance Manager (QAM)).

S

Scientific Method - The principles and processes regarded as necessary for scientific investigation, including rules for concept or hypothesis formulation, conduct of experiments, and validation of hypotheses by analysis of observations.

Secondary Data - See Existing Data

Self-Assessment - Assessments of work conducted by individuals, groups, or organizations directly responsible for overseeing and/or performing the work.

Shall - Denotes a requirement necessary to conform to a specification. Unless otherwise specifically prohibited, alternative approaches or methods for implementing the specification may be allowed as long as the requirement is fulfilled.

Should - Denotes specific recommendations or non-mandatory guidance to conform to a specification which permits flexibility with regard to implementation.

Standard Operating Procedure (SOP) - A written document that details the method for an operation, analysis, or action with thoroughly prescribed techniques and steps, and that is officially approved as the method for performing certain routine or repetitive tasks.

Supplier - Any individual or organization furnishing items or services or performing work according to a procurement document or financial assistance agreement. This is an all-inclusive term used in place of any of the following: vendor, seller, contractor, subcontractor, fabricator, or consultant.

Surveillance - Continual or frequent monitoring and verification of the status of an entity and the analysis of records to ensure that specified requirements are being fulfilled.

T

Technical Assessment - The evaluation process used to measure the performance or effectiveness of a technical system and its elements with respect to documented specifications and objectives. Such assessments may include qualitative and quantitative evaluations. A technical assessment may either be performed by those directly responsible for oversight and/or performance of the work (i.e. a technical self-assessment) or by someone other than the group performing the work (i.e., a technical independent assessment).

Technical review - A documented critical review of work that has been performed within the state of the art. The review is accomplished by one or more qualified reviewers who are independent of those who performed the work, but are collectively equivalent in technical expertise to those who performed the original work. The review is an in-depth analysis and evaluation of documents, activities, material, data, or items that require technical verification or validation for applicability, correctness, adequacy, completeness, and assurance that established requirements are satisfied.

Technical systems audit (TSA) - A thorough, systematic, on-site, qualitative audit of facilities, equipment, personnel, training, procedures, record keeping, data validation, data management, and reporting aspects of a system.

U

User - An organization, group, or individual that utilizes the results or products from environmental programs or a customer for whom the results or products were collected or created.

V

Validation - Confirmation by examination and provision of objective evidence that the particular requirements for a specific intended use are fulfilled. In design and development, validation concerns the process of examining a product or result to determine conformance to user needs.

Verification - Confirmation by examination and provision of objective evidence that specified requirements have been fulfilled. In design and development, verification concerns the process of examining a result of a given activity to determine conformance to the stated requirements for that activity.

ATTACHMENT B

Attachment B-1

Standard Operating Procedure
for
QAPP Log-in and Log out

Science and Quality Assurance Section
Superfund Division

Revision: 2
September 2017

Author:

_____ _____
Tim Prendiville, Section Chief Date

Approved:

_____ _____
Tim Prendiville, Section Chief Date

Reviewed

Initials				
Date				

Table of Contents

1. Purpose:

The purpose of this Standard Operating Procedure (SOP) is to ensure that all activities performed by the QA staff in the Superfund Division are accounted for by appropriate log-in and log-out procedures. The project correspondence files reflect the comments provided by QA reviewer and actions taken by RPMs, contractors and laboratories.

2. Scope and Applicability

Procedures documented in this SOP apply to process of keeping the Quality Assurance Project Plan correspondence files current.

3. Summary of Procedure

a. The information about the pre-QAPP meeting (notes, etc.) should be inserted in the correspondence files with other site information. For a new site the person attending the pre-QAPP meeting is responsible for starting a new file (which includes the correspondence file folder).

b. Log-in and log out of the QAPPs, QAPP revisions, SOPs, and PRPs data validations received for review by SFD chemists:

* Review requests shall be made by filling out, and submitting to the QAM, the QAPP Review Request Form (Attachment 1). The form can also be found at https://usepa.sharepoint.com/sites/R5_Work/SFDIO/RRB/SQAS/SitePages/Home.aspx.
* *Documents sent to the Superfund Division QAM.* The QAM will assign the SF log-in number, log-in the document into the Quality Assurance Data Tracking System data base, and the document will be given to the SFD chemist for review with status report form attached.
* *Document sent to the reviewer*. The reviewer is responsible for informing the QAM about newly received revised documents. The QAM will assign the SF log-in number and log-in the document into Quality Assurance Data Tracking System data base.

4. Acronyms

a. RPM-Regional Project Manager
b. QA-Quality Assurance
c. QAPP- Quality Assurance Project Plan
d. QAM – Quality Assurance Manager
e. QADTS Quality Assurance Data Tracking System
f. FSP- Field Sampling Plan

g. SAP- Sampling and Analysis Plan
h. PRP- Potentially Responsible Party

5. Responsibilities

It is the responsibility of the QA staff to inform the QAM when the revised document is submitted to the reviewer.

6. Documentation/Reporting

After the review is finished the following should be done:

* The QA reviewer shall send copy of the comment or approval memo to the QAM. The QAM will log-out the document into QADTS data base.
* Electronic copy and hard copy of the comments should be sent to the RPM.
* All documents used for review (QAPP, Work Plan, FSP) should be sent back to the RPM by QA Reviewer. QA staff should maintain records of the review electronically or in correspondence files.

7. Quality Assurance & Quality Control

This SOP will be reviewed by the QAM and/or the QA staff at least once a year in order to maintain its relevancy.

8. References

Guidance for Preparing Standard Operating Procedures (SOPs), EPA QA/G-6, April 2007.

ATTACHMENT 1

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5

DATE:

SUBJECT: QAPP REVIEW REQUEST

FROM: **PHONE:**

TO: TIM PRENDIVILLE, CHIEF
SCIENCE AND QUALITY ASSURANCE SECTION

Attached please find_____copies of a QAPP for your review.

SITE NAME:_____

STATE:_____

LEAD: FUND_____ PRP____ STATE____

SITE ACCOUNT#_____

PHASE/STAGE: RI/FS, RD, RA **OTHER_____**

QAPP REVISION NO.:_____ ***(INITIAL REV. IS '0')***

QAPP PREPARED BY: _____

PRE-QAPP MEETING? YES/NO **MTG. DATE:_____**

REQUESTED REVIEW TIME:

____INITIAL REVISION
____1ST REVISION
____2ND REVISION

EXPEDITED REVIEWS WILL NEED A MEMO FROM BRANCH CHIEF

ENCLOSURE/OTHER DOCUMENTS:

__WORKPLAN __SAMPLING PLAN ___SOPs ___SAS

COMMENTS:

TO BE FILLED IN BY RRS 2: DATE IN: _____
DATE DUE: _____
FSS LOG-IN NO.: _____

Attachment B-2

APPENDIX 46.2.1D
U.S. EPA QUALITY ASSURANCE REVIEW FORM FOR CONTRACT ACTIONS

I. General Information

a. Contract Type:

[ ] Solicitation/Sole Source RFP #:_____

[ ] Delivery Order/Work Assignment/Task Order
(PWS/SOW Date: _____ Task Order #: _____ Contract #:_____

b. Descriptive Title (*same title as in SOW***):**

_____

c. Sponsoring Organization *(e.g., Branch, Division, Office, etc.):* _____

d. Project Duration (*start [date]to end [date]***):** _____

e. Is this a new [ ] or continuation of an existing [ ] project (*mark one***)?**

II. Scope of Work *[For example activities, see www2.epa.gov/quality/examples.html.]*

a. Does the work involve:

	YES	NO
• The collection, generation, use, and/or reporting of environmental data?	[ ]	[ ]

(Environmental data are defined as any measurements or information that describe environmental processes, location, or conditions; ecological or health effects and consequences; or the performance of environmental technology. For EPA, environmental data include information collected directly from measurements, produced from models, and compiled from other sources such as data bases or the literature.)

• Design, construction, and/or operation of environmental technologies?	[ ]	[ ]
• Development and/or use of models?	[ ]	[ ]
• Other activities that need quality assurance or quality control requirements as identified in your organization's Quality Management Plan? **If yes, list HERE:** _____ _____	[ ]	[ ]

If all answers are No, skip Section III and complete Section IV

b. Estimate of percentage of costs or level-of-effort allocated to quality assurance for the activities identified above: _____

III. Quality Related Requirements:

(Where applicable, reference a specific section of the performance work statement/statement of work)

a. For Solicitations Only (complete (b) – (f) below)

1. Insert the percentage, weight or value of technical evaluation criteria assigned to offeror's quality system documentation: _____

2. List any quality standards (from your organization's Quality Management Plan) that you will use in lieu of, or in addition to, *American Society for Quality/American National Standards Institute E4, Quality Systems for Environmental Information and Environmental Technology Programs – Requirements with guidance for use (ASQ/ANSI E4)*. These standards are:

   Title:
   Numbering:
   Date:
   Requirements (Tailoring):

b. QA Documentation Options: (For solicitations, complete items 1-4; for all actions other than solicitations complete items 3-4. All documentation specified under "Other" must be defined in your organization's Quality Management Plan and be consistent with requirements defined in CIO 2105-P-01-0. For items checked under #2, there must be adequate information in the PWS/SOW for the Offeror to develop this documentation.)

The Offeror shall submit the following quality system documentation[1] :

Before Award Documentation

1. [ ] Documentation of an organization's Quality System. Developed in accordance with either [ ] R-2, and/or [ ] Other:_____

   [ ] Combined documentation of an organization's Quality System and application of QA and QC to the single project covered by the contract. Developed in accordance with either [ ] R-2 and R-5, or by [ ] Other: _____

2. [ ] Programmatic QA Project Plan. Developed in accordance with either [ ] R-5, or [ ] Other: _____

   [ ] Application of QA and QC activities to the single project covered by the contract. QA Project Plan developed in accordance with either [ ] R-5, or [ ] Other: _____

   [ ] Not applicable.

After Award Documentation

3. [ ] Documentation of an organization's Quality System. Developed in accordance with either [ ] R-2, and/or [ ] Other: _____

   [ ] Combined documentation of an organization's Quality System and application of QA and QC to the single project covered by the contract. Developed in accordance with either [ ] R-2 and R-5, and/or by [ ] Other: _____

   [ ] Not applicable.

4. [ ] Documentation of the application of QA and QC activities to applicable project(s). Developed in accordance with either [ ] R-5; and/or [ ] a supplement to the following Programmatic QA Project Plan; and/or [ ] Other: _____

   [ ] Programmatic QA Project Plan with supplements for each specific project. Developed in accordance with: _____

   [ ] Existing documentation of the application of QA and QC activities will be used. Either:
   - [ ] Documentation developed pre-award;
   - [ ] Documentation will be identified in individual performance work statement/statement of work; or
   - [ ] Documentation identified in Section _____ of the performance work statement/statement of work.

[1]QMP refers to a Quality Management Plan. Programmatic QA Project Plan refers to a QA Project Plan that would cover multiple projects with similar activities. R-2 refers to EPA Requirements for Quality Management Plans (QA/R-2) (EPA/240/B-01/002, 03/20/01) and R-5 refers to EPA Requirements for Quality Assurance Project Plans (QA/R-5) (EPA/240/B-01/003, 03/20/01) - copies of these documents are available at www.epa.gov/quality.

c. **Reports:** Are quality reports or reports containing quality assurance information (for example, status of quality system implementation, review of a quality system, quality control data, etc.) required? [**[ ] Yes [ ] No**

If yes, identify the required reports and the time frame for submission: _____

d. **Assessments:** Select all quality assessments that will be performed either pre-award or post-award

	Pre-Award	Post-Award
On-site evaluation of Offeror's/contractor's facility		
Assessment of the offeror's/contractor's Quality System (e.g., quality system audits, management system reviews, etc.)		
Project –specific assessments (e.g., technical systems audits, surveillance, performance evaluations, data quality assessments, peer reviews, readiness reviews)		

For each assessment, specify type, date to perform, and who will perform it (if known):

1. _____
2. _____
3. _____

e. **Procedures to Update Documentation:** Identify any procedures/requirements for updating EPA approved quality-related documentation:

f. **Other Requirements:** Identify any other pertinent quality related requirements (as identified in your organization's Quality Management Plan):

1. **EPA Order, CIO 2105.0, 6.a.(7) Quality System Requirements:**
   QAPPs must be approved prior to any data gathering work or use, except under circumstances requiring immediate action to protect human health and the environment or operations conducted under police powers.

IV. **The signatures below verify that the Statement of Work has been reviewed to ascertain if quality assurance or quality control activities are needed and that the appropriate quality requirements have been established.**

_____ _____

Contracting Officer's Representative Date **Quality Assurance Manager Date**

ATTACHMENT C

EXAMPLE OF A QA PROJECT PLAN REVIEW CHECKLIST

This checklist is an example of what could be used to either write or review a QA Project Plan for conformance to EPA QA/R-5 document. The items noted follow those elements found in *EPA Requirements for QA Project Plans (QA/R-5)* (EPA, 2001).

PROJECT TITLE: _____ Reference Number: _____

Project site name or descriptor: _____

Preparer: _____Date Submitted for Review: _____

Requestor, Mail code, telephone email address: _____

Reviewer: _____ Date of Review: _____

Additional Technical Review requested from: Date for Completion - Technical Review: _____

Review Status: ☐ **Complete/Approved** ☐ **Complete with comments** ☐ **Incomplete with comments**

Comments in Separate Report dated: _____ Response expected by: _____

Date Submitted for Response/Final Signature: Implementation Scheduled Date: _____

Note: A = Acceptable U = Unacceptable NI = Not Included NA = Not Applicable

Corresponding UFP QAPP Section (March 2005)	EPA QA/R 5	Required EPA - Elements & Required Information (Numbers in parenthesis indicate worksheet #(s) associated with Elements & Required Information)	A	U	NI	NA	Location of Element in Submitted Document (Section #, Table #, figure #, etc)	COMMENTS
PROJECT MANAGEMENT								
2.1	**A.1**	**Title and Approval Sheet (#1)**						
2.1		Contains project title						
2.1		Indicates revision number, if applicable						
2.1		Indicates organization's name						
2.1		Dated signature of organization's project manger present						
2.1		Dated signature of organization's QA manager present						
2.1		Other signatures, as needed						
2.2.3	**A.2**	**Table of Contents (#2)**						
2.2.4		Lists QA Project Plan information sections						
2.2.1, 2.2.2		Document control information indicated						

Corresponding UFP QAPP Section (March 2005)	EPA QA/R 5	Required EPA - Elements & Required Information (Numbers in parenthesis indicate worksheet #(s) associated with Elements & Required Information)	A	U	NI	NA	Location of Element in Submitted Document (Section #, Table #, figure #, etc)	COMMENTS
2.3.1	**A.3**	**Distribution List (#3 and 4)**						
2.3.2		Includes all individuals who are to receive a copy of the QA Project Plan and identifies their organization						
2.4	**A.4**	**Project/Task Organization (#5, 6, 7, 8)**						
2.4.3		Identifies key individuals involved in all major aspects of the project, including contractors						
2.4.3		Discusses their responsibilities						
2.4.1		Project QA Manager position indicates independence from unit generating data						
2.4.3		Identifies individual responsible for maintaining the official, approved QA Project Plan						
2.4.1		Organizational chart shows lines of authority and reporting responsibilities						

Corresponding UFP QAPP Section (March 2005)	EPA QA/R 5	Required EPA - Elements & Required Information (Numbers in parenthesis indicate worksheet #(s) associated with Elements & Required Information)	A	U	NI	NA	Location of Element in Submitted Document (Section #, Table #, figure #, etc)	COMMENTS
2.5	**A.5**	**Problem Definition/Background (#10, 2, 15)**						
2.6		States decision(s) to be made, actions to be taken, or outcomes expected from the information to be obtained						
2.5.2		Clearly explains the reason (site background or historical context) for initiating this project						
2.5.1		Identifies regulatory information, applicable criteria, action limits, etc. necessary to the project						
2.6, 2.8	**A.6**	**Project/Task Description (#9, 14, 16)**						
2.6, 2.7, 2.8		Summarizes work to be performed, for example, measurements to be made, data files to be obtained, etc., that support the project's goals						
2.8.2		Provides work schedule indicating critical project points, e.g., start						

Corresponding UFP QAPP Section (March 2005)	EPA QA/R 5	Required EPA - Elements & Required Information (Numbers in parenthesis indicate worksheet #(s) associated with Elements & Required Information)	A	U	NI	NA	Location of Element in Submitted Document (Section #, Table #, figure #, etc)	COMMENTS
		and completion dates for activities such as sampling, analysis, data or file reviews, and assessments						
2.5.2, 2.8.1		Details geographical locations to be studied, including maps where possible						
2.8.2		Discusses resource and time constraints, if applicable						
2.6	**A.7**	**Quality Objectives and Criteria (#11, 12, 15)**						
2.6.2		Identifies performance/measurement criteria for all information to be collected and acceptance criteria for information obtained from previous studies, including project action limits and laboratory detection limits and range of anticipated concentrations of each parameter of interest						
2.6.2		Discusses precision						

Corresponding UFP QAPP Section (March 2005)	EPA QA/R 5	Required EPA - Elements & Required Information (Numbers in parenthesis indicate worksheet #(s) associated with Elements & Required Information)	A	U	NI	NA	Location of Element in Submitted Document (Section #, Table #, figure #, etc)	COMMENTS
2.6.2		Addresses bias						
2.6.2		Discusses representativeness						
2.6.2		Identifies the need for completeness						
2.6.2		Describes the need for comparability						
2.6.2		Discusses desired method sensitivity						
2.4.4	**A.8**	**Special Training/Certifications (#8)**						
2.4.4		Identifies any project personnel specialized training or certifications						
2.4.4		Discusses how this training will be provided						
2.4.3		Indicates personnel responsible for assuring these are satisfied						
2.4.4		Identifies where this information is documented						
3.5	**A.9**	**Documentation and Records (#4, 6, 29)**						

Corresponding UFP QAPP Section (March 2005)	EPA QA/R 5	Required EPA - Elements & Required Information (Numbers in parenthesis indicate worksheet #(s) associated with Elements & Required Information)	A	U	NI	NA	Location of Element in Submitted Document (Section #, Table #, figure #, etc)	COMMENTS
4.3		Identifies report format and summarizes all data report package information						
3.5		Lists all other project documents, records, and electronic files that will be produced						
3.5.4		Identifies where project information should be kept and for how long						
3.5.4		Discusses back up plans for records stored electronically						
2.3.1, 2.2.1		States how individuals identified in A3 will receive the most current copy of the approved QA Project Plan, identifying the individual responsible for this						
DATA GENERATION and ACQUISITION								

Corresponding UFP QAPP Section (March 2005)	EPA QA/R 5	Required EPA - Elements & Required Information (Numbers in parenthesis indicate worksheet #(s) associated with Elements & Required Information)	A	U	NI	NA	Location of Element in Submitted Document (Section #, Table #, figure #, etc)	COMMENTS
3.1	**B.1**	**Sampling Process Design (Experimental Design) (#11, 16, 17, 18, 16, 37)**						
3.1.1		Describes and justifies design strategy, indicating size of the area, volume, or time period represented by a sample						
3.1.1		Details the type and total number of sample types/matrix or test runs/trials expected and needed						
3.1.2		Indicates where samples should be taken, how sites will be identified/located						
3.1.2		Discusses what to do if sampling sites become inaccessible						
3.1.2		Identifies project activity schedules such as each sampling event, times samples should be sent to the laboratory, etc.						
3.1.2		Specifies what information is critical and what is for informational purposes only						

Corresponding UFP QAPP Section (March 2005)	EPA QA/R 5	Required EPA - Elements & Required Information (Numbers in parenthesis indicate worksheet #(s) associated with Elements & Required Information)	A	U	NI	NA	Location of Element in Submitted Document (Section #, Table #, figure #, etc)	COMMENTS
3.1.2		Identifies sources of variability and how this variability should be reconciled with project information						
3.1.2	**B.2**	**Sampling Methods (#18, 21)**						
3.1.2.1		Identifies all sampling SOPs by number, date, and regulatory citation, indicating sampling options or modifications to be taken						
3.1.2		Indicates how each sample/matrix type should be collected						
3.1.2		If in situ monitoring, indicates how instruments should be deployed and operated to avoid contamination and ensure maintenance of proper data						
3.1.2		If continuous monitoring, indicates averaging time and how instruments should store and maintain raw data, or data averages						

Corresponding UFP QAPP Section (March 2005)	EPA QA/R 5	Required EPA - Elements & Required Information (Numbers in parenthesis indicate worksheet #(s) associated with Elements & Required Information)	A	U	NI	NA	Location of Element in Submitted Document (Section #, Table #, figure #, etc)	COMMENTS
3.1.2		Indicates how samples are to be homogenized, composited, split, or filtered, if needed						
3.1.2		Indicates what sample containers and sample volumes should be used						
3.1.2		Identifies whether samples should be preserved and indicates methods that should be followed						
3.1.2		Indicates whether sampling equipment and samplers should be cleaned and/or decontaminated, identifying how this should be done and by-products disposed of						
3.1.2		Identifies any equipment and support facilities needed						
3.1.2		Addresses actions to be taken when problems occur, identifying individual(s) responsible for corrective action and how this should be documented						

Corresponding UFP QAPP Section (March 2005)	EPA QA/R 5	Required EPA - Elements & Required Information (Numbers in parenthesis indicate worksheet #(s) associated with Elements & Required Information)	A	U	NI	NA	Location of Element in Submitted Document (Section #, Table #, figure #, etc)	COMMENTS
3.3.	**B.3**	**Sample Handling and Custody (#19, 26, 27)**						
3.3.2		States maximum holding times allowed from sample collection to extraction and/or analysis for each sample type and, for in-situ or continuous monitoring, the maximum time before retrieval of information						
3.3.2		Identifies how samples or information should be physically handled, transported, and then received and held in the laboratory or office (including temperature upon receipt)						
3.3.1		Indicates how sample or information handling and custody information should be documented, such as in field notebooks and forms, identifying individual responsible						
3.3.2		Discusses system for identifying samples, for example, numbering						

Corresponding UFP QAPP Section (March 2005)	EPA QA/R 5	Required EPA - Elements & Required Information (Numbers in parenthesis indicate worksheet #(s) associated with Elements & Required Information)	A	U	NI	NA	Location of Element in Submitted Document (Section #, Table #, figure #, etc)	COMMENTS
		system, sample tags and labels, and attaches forms to the plan						
3.3.3		Identifies chain-of-custody procedures and includes form to track custody						
3.2	**B.4**	**Analytical Methods (#19, 23, 24, 25, 30)**						
3.2.1		Identifies all analytical SOPs (field, laboratory and/or office) that should be followed by number, date, and regulatory citation, indicating options or modifications to be taken, such as sub-sampling and extraction procedures						
3.2.2		Identifies equipment or instrumentation needed						
3.2.1		Specifies any specific method performance criteria						
3.2.4		Identifies procedures to follow when failures occur, identifying						

Corresponding UFP QAPP Section (March 2005)	EPA QA/R 5	Required EPA - Elements & Required Information (Numbers in parenthesis indicate worksheet #(s) associated with Elements & Required Information)	A	U	NI	NA	Location of Element in Submitted Document (Section #, Table #, figure #, etc)	COMMENTS
		individual responsible for corrective action and appropriate documentation						
3.3.2		Identifies sample disposal procedures						
3.2.3		Specifies laboratory turnaround times needed						
3.2.1		Provides method validation information and SOPs for nonstandard methods						
3.4	**B.5**	**Quality Control (# 12, 15, 20, 28)**						
3.4		For each type of sampling, analysis, or measurement technique, identifies QC activities which should be used, for example, blanks, spikes, duplicates, etc., and at what frequency						
3.4		Details what should be done when control limits are exceeded, and how effectiveness of control actions will be determined and documented						

Corresponding UFP QAPP Section (March 2005)	EPA QA/R 5	Required EPA - Elements & Required Information (Numbers in parenthesis indicate worksheet #(s) associated with Elements & Required Information)	A	U	NI	NA	Location of Element in Submitted Document (Section #, Table #, figure #, etc)	COMMENTS
3.2.1, 3.5		Identifies procedures and formulas for calculating applicable QC statistics, for example, for precision, bias, outliers and missing data						
3.1.2.4, 3.2.4	**B.6**	**Instrument/Equipment Testing, Inspection, and Maintenance (#21, 22, 25, 30)**						
3.1.2.4, 3.2.4		Identifies field and laboratory equipment needing periodic maintenance, and the schedule for this						
3.3		Identifies testing criteria						
3.1.2.5		Notes availability and location of spare parts						
3.1.2.3		Indicates procedures in place for inspecting equipment before usage						
2.4.3		Identifies individual(s) responsible for testing, inspection and maintenance						

Corresponding UFP QAPP Section (March 2005)	EPA QA/R 5	Required EPA - Elements & Required Information (Numbers in parenthesis indicate worksheet #(s) associated with Elements & Required Information)	A	U	NI	NA	Location of Element in Submitted Document (Section #, Table #, figure #, etc)	COMMENTS
4.1.2		Indicates how deficiencies found should be resolved, re-inspections performed, and effectiveness of corrective action determined and documented						
3.1.2.4, 3.2.2	**B.7**	**Instrument/Equipment Calibration and Frequency (#22, 25)**						
3.1.2.4, 3.2.2		Identifies equipment, tools, and instruments that should be calibrated and the frequency for this calibration						
3.1.2.4, 3.2.2		Describes how calibrations should be performed and documented, indicating test criteria and standards or certified equipment						
4.1.2		Identifies how deficiencies should be resolved and documented						
3.1, 3.2	**B.8**	**Inspection/Acceptance for Supplies and Consumables (#22)**						
3.1.2.5, 3.2.4		Identifies critical supplies and consumables for field and laboratory, noting supply source,						

Corresponding UFP QAPP Section (March 2005)	EPA QA/R 5	Required EPA - Elements & Required Information (Numbers in parenthesis indicate worksheet #(s) associated with Elements & Required Information)	A	U	NI	NA	Location of Element in Submitted Document (Section #, Table #, figure #, etc)	COMMENTS
		acceptance criteria, and procedures for tracking, storing and retrieving these materials						
2.4.3		Identifies the individual(s) responsible for this						
3.5	**B.9**	**Non-direct Measurements (#11, 13, 31, 37)**						
3.5.1		Identifies data sources, for example, computer databases or literature files, or models that should be accessed and used						
3.5.4		Describes the intended use of this information and the rationale for their selection, i.e., its relevance to project						
3.5.4		Indicates the acceptance criteria for these data sources and/or models						
2.4.3		Identifies key resources/support facilities needed						
3.5.5, 5.2		Describes how limits to validity and operating conditions should be determined, for example,						

Corresponding UFP QAPP Section (March 2005)	EPA QA/R 5	Required EPA - Elements & Required Information (Numbers in parenthesis indicate worksheet #(s) associated with Elements & Required Information)	A	U	NI	NA	Location of Element in Submitted Document (Section #, Table #, figure #, etc)	COMMENTS
		internal checks of the program and Beta testing						
3.5	**B.10**	**Data Management (#29, 31, 37)**						
3.5.2		Describes data management scheme from field to final use and storage						
3.5.1, 3.5.5		Discusses standard record-keeping and tracking practices, and the document control system or cites other written documentation such as SOPs						
3.5.3, 3.5.4		Identifies data handling equipment/procedures that should be used to process, compile, analyze, and transmit data reliably and accurately						
2.4.3		Identifies individual(s) responsible for this						
3.5.4		Describes the process for data archival and retrieval						

Corresponding UFP QAPP Section (March 2005)	EPA QA/R 5	Required EPA - Elements & Required Information (Numbers in parenthesis indicate worksheet #(s) associated with Elements & Required Information)	A	U	NI	NA	Location of Element in Submitted Document (Section #, Table #, figure #, etc)	COMMENTS
3.5.3		Describes procedures to demonstrate acceptability of hardware and software configurations						
3.5.1		Attaches checklists and forms that should be used						
ASSESSMENT and OVERSIGHT								
4.1	**C.1**	**Assessments and Response Actions (#31 and 32)**						
4.1.1		Lists the number, frequency, and type of assessment activities that should be conducted, with the approximate dates						
2.4.3		Identifies individual(s) responsible for conducting assessments, indicating their authority to issue stop work orders, and any other possible participants in the assessment						

Corresponding UFP QAPP Section (March 2005)	EPA QA/R 5	Required EPA - Elements & Required Information (Numbers in parenthesis indicate worksheet #(s) associated with Elements & Required Information)	A	U	NI	NA	Location of Element in Submitted Document (Section #, Table #, figure #, etc)	COMMENTS
		process						
4.1.2		Describes how and to whom assessment information should be reported						
4.1.2		Identifies how corrective actions should be addressed and by whom, and how they should be verified and documented						
4.2	**C.2**	**Reports to Management (#33)**						
4.2		Identifies what project QA status reports are needed and how frequently						
2.4.3		Identifies who should write these reports and who should receive this information						
DATA VALIDATION and USABILITY								
5.1, 5.2	**D.1**	**Data Review, Verification, and Validation (#34, 35 and 36)**						
5.2		Describes criteria that should be used for accepting, rejecting, or qualifying project data						

Corresponding UFP QAPP Section (March 2005)	EPA QA/R 5	Required EPA - Elements & Required Information (Numbers in parenthesis indicate worksheet #(s) associated with Elements & Required Information)	A	U	NI	NA	Location of Element in Submitted Document (Section #, Table #, figure #, etc)	COMMENTS
5.2	**D.2**	**Verification and Validation Methods (#34 and 35)**						
5.2		Describes process for data verification and validation, providing SOPs and indicating what data validation software should be used, if any						
2.4.3		Identifies who is responsible for verifying and validating different components of the project data/information, for example, chain-of-custody forms, receipt logs, calibration information, etc.						
2.4.3, 5.3		Identifies issue resolution process, and method and individual responsible for conveying these results to data users						
5.2		Attaches checklists, forms, and calculations						
5.2	**D.3**	**Reconciliation with User Requirements (#37)**						
5.2.3		Describes procedures to evaluate						

Corresponding UFP QAPP Section (March 2005)	EPA QA/R 5	Required EPA - Elements & Required Information (Numbers in parenthesis indicate worksheet #(s) associated with Elements & Required Information)	A	U	NI	NA	Location of Element in Submitted Document (Section #, Table #, figure #, etc)	COMMENTS
		the uncertainty of the validated data						
5.2.3		Describes how limitations on data use should be reported to the data users						

ATTACHMENT D

Example Emergency Response Field Sampling Plan (FSP)

FOREWORD

This document, Volume II of *Quality Assurance/Quality Control Guidance for Removal Program Data Collection*, is part of an update of Office of Solid Waste and Emergency Response (OSWER) Directive 9360.4-01, *Quality Assurance/Quality Control Guidance for Removal Activities*, April 1990. Updating OSWER Directive 9360.4-01 is necessary in part because of significant changes in Agency quality assurance provisions impacting the Removal Program.

In the latter part of 1998, EPA's Office of the Inspector General (OIG) evaluated the 1990 OSWER Directive 9360.4-01 as part of an ongoing audit of specific removal program activities. The OIG found that the 1990 OSWER directive was no longer current with Agency policy and reported this in "Advisory Report on the Need to Revise Quality Assurance Guidance for Superfund Removal Activities," issued January 27, 1999.

OSWER Directive 9360.4-01 (April 1990) was issued in two parts: Part I, Sampling QA/QC Plan, and Part II, Data Validation Procedures. *Quality Assurance/Quality Control Guidance for Removal Program Data Collection* is issued in two volumes:

Volume I	-	Quality Assurance Sampling Plan
Volume II	-	Example Emergency Response Sampling and Analysis Plan (SAP)

OSWER is developing a separate document, *Data Validation Guidance for the Removal Program*, to supplement *Quality Assurance/Quality Control Guidance for Removal Program Data Collection* and to replace Part II of OSWER Directive 9360.4-01 (April 1990).

Volume II provides a template, a modification of the template in use in Region 8, for a Sampling and Analysis Plan that on-scene coordinators (OSCs) and their contractors may use ***only*** in emergency situations and when there is less than 24 hours notice. If a given situation is not an emergency, then OSCs and their contractors must prepare a standard Quality Assurance Sampling Plan (QASP). See Volume I for guidance on QASP development.

FIELD SAMPLING PLAN
FOR THE
<SITE NAME>
<CITY, COUNTY, STATE>

Prepared for
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region V

Prepared by

<Date>

Approved by: _____ Date: _____
U.S. EPA Region V
On-Scene Coordinator

Project Dates of Sampling:
CERCLA ID / Site Spill Identifier No.:
Contract Name:
Contract No.:
Technical Direction Document No.:
Document Control No.:

ACRONYM LIST

CFR	Code of Federal Regulations
COC	Contaminant of Concern
IAC	Indiana Administrative Code
IDEM	Indiana Department of Environmental Management
MS/MSD	Matrix Spike/ Matrix Spike Duplicate
NPL	National Priorities List
OSC	On-Scene Coordinator
PCB	Polychlorinated Biphenyl
PAH	Polynuclear Aromatic Hydrocarbon
PFTE	Polytetrafluoroethylene
ppb	Part Per Billion
PPE	Personal Protective Equipment
QAPP	Quality Assurance Project Plan
QA/QC	Quality Assurance/Quality Control
RAL	Removal Action Level
FSP	Field sampling plan
SOP	Standard Operating Procedure
SVOC	Semivolatile Organic Compound
START	Superfund Technical Assessment and Response Team
TCLP	Toxicity Characteristic Leaching Procedure
U.S. EPA	United States Environmental Protection Agency
VOA	Volatile Organic Analysis
VOC	Volatile Organic Compound

TABLE OF CONTENTS

Section **Page**

LIST OF TABLES

LIST OF FIGURES

ATTACHMENT

<List Attachments>

1.0 Introduction

This Field sampling plan (FSP) identifies the data collection activities and associated quality assurance/quality control (QA/QC) measures specific to the <Site Name> (the Site) located in <City, County, State>. All data will be generated in accordance with the quality requirements described in the *START III Generic QAPP*, dated June 2006. The purpose of this FSP is to describe site-specific tasks that will be performed in support of the stated objectives. The FSP will reference the QAPP for generic tasks common to all data collection activities including routine procedures for sampling and analysis, sample documentation, equipment decontamination, sample handling, data management, assessment, and data review. Additional site-specific procedures and/or modifications to procedures described in the *START III Generic QAPP* are described in the following FSP elements.

This FSP is prepared, reviewed, and approved in accordance with the procedures detailed in the *START III Generic QAPP*. Any deviations or modifications to the approved FSP will be documented using **Table 1: FSP Revision Form.**

2.0 Project Management and FSP Distribution and Project Team Member List

Management of the Site will be as documented in the *START III Generic QAPP*. Refer to the *START III Generic QAPP* for an organizational chart, communication pathways, personnel responsibilities and qualifications, and special personnel training requirements.

The following personnel will be involved in planning and/or technical activities performed for this data collection activity. Each will receive a copy of the approved FSP. A copy of the FSP will also be retained in the site file.

Personnel	Title	Organization	Phone Number	Email
	OSC	U.S. EPA		
	Project Manager	START		
	Site Leader	START		
	Health and Safety	START		
	QA Reviewer	START		

NOTES:
OSC – On-Scene Coordinator
QA – Quality Assurance
START – Superfund Technical Assessment and Response Team
U.S. EPA – United States Environmental Protection Agency

3.0 Planning and Problem Definition

3.1 Problem Definition

- *Provide a brief description of the site and events that led to the initiation of the data collection activity.*
- *Discuss suspected contamination identification.*

- *Discuss area of suspected contamination that will be sampled.*
- *Document any critical planning decisions agreed to by OSC, management, ATSDR and/or stakeholders and retain records in site file.*

3.2 Site History and Background

- *Describe the geographic area (include longitude and latitude) and proximity to local residents.*
- *Describe buildings on site.*
- *Describe site history and background. Identify previous owners and historic and current uses of facility or site.*
- *Include data from chemical inventories, MSD sheets, chemical purchase orders, manifests, prior sampling data, geological surveys, and incidents of exposure.*
- *Attach site location maps (historical and current), site diagrams, figures, photos, etc.*

3.3 Contaminants of Concern/Target Analytes

Analytes and/or classes of compounds will be monitored including:

- *List other analytes or parameters that will also be monitored for on site.*

    1. *(RCRA metals)*
    2. *(Volatile Organic Compounds)*
    3. *(Semivolatile Organic Compounds)*
    4. *(Herbicides)*
    5. *(Pesticides)*
    6. *(PCBs)*
    7. *(PCB Congeners)*
    8. *(Disposal Parameters)*

4.0 Project Description and Schedule

- *Describe what site activities will be performed, and by whom (Contractor, ERT, CRL, OSC).*

- *Identify which mechanism will be used to provide analytical services (CLP, SAS, CRL, etc).*

- *Describe time constraints on site work and identify critical due dates. Incorporate laboratory turn-around times and data review times into schedule.*

5.0 Project Quality Objectives

5.1 Project Objectives

XI. Sufficient data will be obtained from a representative number of samples to support defensible decisions by the EPA and to determine whether further actions at the site are necessary. *(This paragraph should be modified and/or expanded depending on the nature of the response.)*
XII.
XIII. The following is a list of project objectives that may apply to the site investigation: *(Include the following objectives that apply and any site-specific objectives.)*

- To determine whether a removal action is warranted and if so whether the response should be classified as an emergency, time-critical, or non-time critical removal action.

XIV.

- To rapidly assess and evaluate the urgency, magnitude, extent and impact of a release, or threatened release, of hazardous substances, pollutants or contaminants, and their impact on human health and/or the environment.

XV.

- To assess air quality to determine the level of personal protective equipment that must be used by site workers and to identify safety zones at the site.

XVI.

- To assess air quality to determine if residents or site personnel need to be evacuated.

XVII.

- To supply ATSDR or others with information about the nature and magnitude of any health threat and to support subsequent public health advisories.

XVIII.

- To determine a remedy to eliminate, reduce, or control risks to human health and the environment and to support an "Action" decision memorandum documenting the identified removal approach.

XIX.

- To categorize waste material to support timely transportation and disposal decisions.

XX.

- To verify of confirm field screening parameters.

XXI.

- To identify potentially responsible parties.

XXII.

- To support a "Closure" decision memorandum, when removal site evaluation is terminated.

XXIII.
XXIV. More information about the sampling procedures to support this is provided in Section 6.

5.2 Measurement and Performance Criteria

Generic measurement and performance criteria described in the *START III Generic QAPP* will be used. These criteria will ensure that data are sufficiently sensitive, precise, accurate, and representative to support site decisions. *[When alternate quality criteria are required to support ERRB decision-making, then describe those criteria here. Also, when non-chemical parameters are measured such as biological, radiological or physical, then describe those criteria here.]*

5.3 Data Quality Objectives

Data quality objectives address requirements that include when, where, and how to collect samples; the number of samples; and the limits on tolerable error rates. These steps should periodically be revisited as new information about a problem is learned.

Refer to START III Generic QAPP, Figure 13. *Insert screening criteria that will be used such as the following:*

- *Hazardous waste characteristics listed in 40 CFR 261*
- *Regional Screening Levels (RSL) for Chemical Contaminants at Superfund Sites*
- *Removal Action Levels*
- *State-specific screening levels*
- *NIOSH/OSHA exposure limits*
- *Other*

6.0 Sampling Design

- *Describe the sample matrices that will be collected (drum, surface water, subsurface soil, etc.), depth at which sample will be taken, and number and location of samples that will be collected for each matrix.*
- *Describe site-specific sampling procedures (refer to SOPs if applicable)*
- *Specify whether samples are grab or composite and explain rationale for compositing or composting scheme. Confirm that project quantitation limits will be achieved even when samples are composited.*
- *When feasible, identify sampling locations per matrix on a detailed site map and attach it to this FSP.*

Samples will be analyzed for the parameters listed in Table 2. In addition, requirements for the sample container, volume, preservation, and QC samples are presented in Table 2: Sampling and Analysis Summary.

6.1 Sample Numbering System

All samples for analysis, including QC samples, will be given a unique sample number. The sample numbers will be recorded in the field logbook and on the chain-of-custody paperwork.

START will assign each sample its unique number. The sample number highlights the suspected contaminated area and location, and will be used for documentation purposes in field logbooks, as well as for presentation of the analytical data in memoranda and reports. The project samples will be identified using the following format:

<Describe sample numbering scheme to be used at the site.>

Examples of the sample identifications for the Site are as follows:

- *<insert sample identification examples>*

6.2 Management of Investigation-Derived Wastes

For purposes of this FSP, investigation-derived wastes are defined as any byproduct of the field activities that is suspected or known to be contaminated with hazardous substances. The performance of field activities will produce waste products, such as spent sampling supplies (*e.g.*, tubing, foil pans, etc.), and expendable Personal Protective Equipment (PPE).

<Describe how investigation-derived wastes will be managed/disposed.>

7.0 Sampling Procedures

7.1 Sampling Standard Operating Procedures

The following Standard Operating Procedures (SOPs) will be used during the site evaluation:

- List Sampling SOPs that will be used (Refer to START III Generic QAPP Appendices).
  1.
  2.
  3.

- If SOPs will be modified for site-specific needs, then describe the modifications here.

- If alternate sampling procedures are used, then include a detailed description of the procedure here, or attach a written SOP.

7.2 Decontamination Procedures

General decontamination procedures are described in Section B.2 of the *START III Generic QAPP*.
< Describe site-specific decontamination procedures.>

8.0 Sample Handling, Tracking, and Custody Procedures

All samples will be identified, handled, shipped, tracked, and maintained under chain of custody, in accordance with the *START III Generic QAPP*.

9.0 Field Analytical Methods and Procedures

9.1 Field Analytical Methods and Standard Operating Procedures

The following procedures and methods will be used:

- *List Field Analytical SOPs that will be used (Refer to START III Generic QAPP Section B.4).*

1.
2.

3.

- *If alternate analytical methods and/or procedures will be used, include a detailed description of the procedure here, or attach a written SOP.*

9.2 Field Testing Laboratory

- *Identify the organization responsible for field analytical testing.*
- *If more than one field testing group will be utilized, identify which parameters and matrices will be analyzed by group.*

9.3 Screening/Confirmatory Analyses

- *If field screening will be performed, list method here.*
- *Describe comparability criteria for screening and confirmatory data. Use equation Comparability calculation for Confirmatory Analyses in START III Generic QAPP* Sec. A.7.

10.0 Fixed Laboratory Analytical Methods and Procedures

- *Identify the laboratory responsible (name, address, name of contact person, telephone number and fax number).*
- *If more than one laboratory will be utilized, identify which parameters and matrices will be analyzed by each laboratory.*
- *Identify the laboratory analytical methods in FSP Table 2.*

Note –The OSC will review and approve the FSP prior to proceeding with lab procurement. Therefore this information will not be available until the lab procurement has been finalized.

11.0 Quality Control Activities

11.1 Field Quality Control

The number of QC samples collected for each analytical parameter and concentration level are listed in **Table 2: Sampling and Analysis Summary.** The QC sample determination and frequency is in accordance with the *START III Generic QAPP*, Table 4.

11.2 Analytical Quality Control

QC for analytical procedures will be performed at the frequency described in the *START III Generic QAPP*, Tables 5 and 6. In addition, method-specific QC requirements will be used to ensure data quality.

11.3 Performance Evaluation Samples

Performance Evaluation (PE) samples will be analyzed for the following *parameters (List parameters e.g., VOC soil, SVOA water, etc.):*

1)

2)

(PE samples may be obtained from commercial vendors.)

12.0 Documentation, Records, and Data Management

Documentation, record keeping, and data management activities will be conducted in accordance with the *START III Generic QAPP,* Section B.10.

13.0 Quality Assurance Assessment and Corrective Actions

One field audit may be conducted during the early phase of a long-term response activity. Field sampling and field analytical procedures will be assessed for conformance with procedures described in the START III Generic QAPP and with this site-specific FSP. Findings will be documented in a report to management. Corrective actions in response to audit findings will be initiated, implemented and checked according to the START III Generic QAPP, Section C.

Type of Audit: _____

Date(s) of Audit: _____

Performed by What Organization: _____

- *Describe the type and date(s) of on-site audits that will be conducted. Although the time-critical nature of most emergency response activities precludes on-site audits, other long-term removal activities that involving data collection are expected to include at least one field audit during the early phase of site work to ensure proper sampling techniques are used and field analytical procedures are being followed.*

14.0 Reports to Management

Reports to management will be written and distributed in accordance with the *START III Generic QAPP,* Section C.

15.0 Steps 1, 2 and 3: Data Review Requirements and Procedures

Step 1: Data collection activities, including sample collection and data generation, will be verified in accordance with the *START III Generic QAPP,* Section D.

Step 2: Data will be validated by START.

Step 3: Data will be reviewed for usability in accordance with the *START III Generic QAPP*, Section D.

TABLES

Table 1
FSP Revision Form

Site: *<Site Name and Location>*
OSC: *<OSC>*
TDD: *<TDD>*

Date	Revision Number	Proposed Change to FSP/QAPP	Reason for Change of Scope/Procedures	FSP Section Superseded	Requested By	Approved By

Table 2
Sampling and Analysis Summary

Site: *<Site Name and Location>*
OSC: *<OSC>*
TDD: *<TDD>*

Matrix	Analytical Parameter	Analytical Method	Containers (Numbers, Size, and Type)	Preservation Requirements	Number of Sampling Locations	Number of Field Duplicates	Number of MS/ MSDs[2]	Number of Blanks (Trip, Field, Equip. Rinsate)[1]	Total Number of Samples to Lab[3]	Holding Time

Notes:
[1] Trip blanks are only required for VOCs in water samples.
[2] For the samples designated for MS/MSDs, triple volume is required for VOCs and double volume for other water parameters.
[3] Total number of samples to the laboratory does not include MS/MSD samples.

ºC – Degrees Celsius
Equip. – Equipment
MS/MSD – Matrix Spike/Matrix Spike Duplicate
VOA – volatile organic analysis
VOC – volatile organic compound

FIGURES

ATTACHMENTS

TABLES

SEMS/RM

ATTACHMENT E

RECORDS CLASSIFICATION FORM
REGION 5 SUPERFUND SITE RECORDS
THIS FORM MUST ACCOMPANY BOTH ELECTRONIC AND PAPER DOCUMENT SUBMISSIONS TO THE RECORDS CENTER

Date ___ /___ / _____

Submitted By _____ **Phone#** _____
SITE / CASE NAME*:_____
CERCLIS / Grant ID #:_____**Spill ID#**_____ **State:** ___**OU:**___
Attorney for the site:_____**RPM / OSC for the site:**_____
Date(s) of documents:_____**Type(s) of documents**:_____
Number of documents / boxes submitted with this form: _____

1. Site-specific submission category (select):

ADMINISTRATIVE RECORD_____ REMEDIAL (NPL)_____
BROWNFIELDS_____ REMOVAL_____
COST RECOVERY_____ SITE ASSESSMENT_____
FEDERAL FACILITIES_____ SFD ALTERNATIVE SITE _____
OTHER (specify): _____ ICTS REPORTS / SIGNOFF_____

2. Does the submission contain CONFIDENTIAL BUSINESS INFORMATION? ___Yes ___No
CBI submissions should be referred directly to SFD Records Manager Todd Quesada (6-4465**)**

If documents are non-releasable / privileged, please check type below:

Attorney Work Product _____ Enforcement/Settlement Confidential ____
Attorney-Client Communication _____ OGC OK _____
Deliberative Process _____ Privacy _____

3. Are the documents to be scanned into the SEMS/Document Management System?

_____ Do not scan into SEMS/SDMS _____ Scan, mark non-releasable

_____ Scan, mark releasable (select document category below):

104(e) Letter (Signed)_____ Five Year Review _____ Administrative Order / AOC (signed)___
POLREP _____ Action Memo (Redacted) _____ Public Comment Submittals/Responses__
ROD / ESD (Signed) _____ Consent Decree (Signed) _____ RI/FS Final Reports/Technical docs _____

OTHER____: Requires OSC, RPM or Attorney signature authorizing release – submissions marked under the "other" category will be automatically indexed and scanned as non-releasable without the required signature.

ATTORNEY/OSC/RPM_____ Date ____ / ____ / _____

4. **Hard copies are to be:**
_____ Archived to the Federal Records Center (FRC / off-site storage)
_____ Returned to submitter
_____ Placed into site file

Priority: _____ Low _____ Medium _____ RUSH

SPECIAL INSTRUCTIONS / NOTES:_____

_____

*NOTE: Submissions to the RECORDS CENTER require one completed form per site. Please direct any questions regarding this form to Todd Quesada, SFD Records Manager at 6-4465.

ATTACHMENT F

Inventory of EPA Region 5 Superfund Major Programs and Databases September, 2017)

Program Name	Business Owner/Requester (Org Loc)	Is Currently in Use?	Stakeholders	Technology	Developed By	Maintained By		Notes
Freedom of Information Act Log (FOIALog)	Evette Jones (ECAB ESS#3)	Yes	FOIAs for SFD, LCD.	Powerbuilder 9 Oracle 10g	unknown contractor	IBM (No one)		Freedom of Information requests are tracked using this application. Used actively for Region 5
Bill Tracking System (BTS)	Larry Schmitt (ECAB Enf Coord)	Yes	SFD, RMD	Java Oracle 10g	BAH	IBM (No one)		Used for tracking bills sent to PRPs. It generates bill drafts.
NPL Fact sheet (National Priority List Fact Sheet)	Vince Saunders (RRB#2 ITS)	Yes	HQ, SFD, and the public after uploaded to HQ	ColdFusion v.9 Dreamweaver v.9 Oracle 10g	E. Munoz-Parrilla and L. Liu	E. Munoz-Parrilla and L. Liu		Workflow functionality allows entering of information, approval of information and fnally release of the information on internet.
FCTS (Facility Compliance Tracking System)	Alex Tzallas (FRP) (ERB#1 ERS#2)	Yes	SFD OPA	Power Builder 9/Oracle 10g	BAH	IBM (No one)		Tracks Oil Sites. Facility Response Plan/Spill Prevention Control and Countermeasure
Inland Sensitivity Atlas (ISA)	Ann Whelan (ERB)	Yes	R5, ICS, and the public	ColdFusion v.9 Dreamweaver v.9 MS Access 2003	EPA staff	EPA staff		

Groundwater Evaluation Optimization (GEOS/Equis)	Dave Wilson(RRB#1 RRS#4)	Yes	RRB	Various software and database products creating several products that can be used together	Various software vendors	IBM (No one)		Equis COTS product by EarthSoft. IBM manages data entry piece
PBITS	Vince Saunders (RRB#2 ITS)	Yes	?	?	BAH	BAH		Budget Info
SERT	Larry Schmitt (ECAB Enf Coord)	Yes	?	?	BAH	?		To track the progress of closing out enforcement instrument
Negotiation Mgmt Tool (NMT)	Larry Schmitt (ECAB Enf Coord)	Yes	?	?	BAH	?		To monitor planned negotiations in relation to other work at the site
FANTool	Vince Saunders (RRB#2 ITS)	Yes	?	?	BAH	?		To track fixed account numbers
SFD Connect (SFDC)	Vince Saunders (RRB#2 ITS)	Yes	R5, SFD	PHP/JOOMLA MySQL v5.5	E. Munoz-Parrilla and L. Liu	E. Munoz-Parrilla and L. Liu		PHP(JOOMLA), MySQL
SITS	Alex Tzallas (ERB#1 ESS#2)	Yes	SFD OPA	Clipper	HQ contractor	No one		FRS Tracking
RemovalTrack/ Enforcement (4)	Jason El-Zein (ERB#1)	Yes	SFD ERB and ECAB, EJ Coordinator	Access 2016 link to SharePoint	ES Contractor	Carol Ropski and Steve Peterson		Site Tracking
PSR Viewer (PSRViewer)	Paul Zanter (RRB#2 ITS)	Yes	HQ, R5, other regions	PowerBuilder v11	P. Zanter	P. Zanter		Views .PSR reports
Slick	Mindy Clements (ERB#1 ERS#2)	Yes	SFD OPA	MS Access 2003	L. Liu	L. Liu		

SCRIBE (ERT)	Warren Layne, OSC staff	Yes	SFD, SQA, ERB	Unkown	USEPA's Environmental Response Team (ERT)	ERTSupport@epa.gov		ERT' Analytical Database Access System
R5 Superfund Records Center	Evette Jones (FOIA)	Yes	SFD, All EPA	Sharepoint	Todd Quesada	Todd Quesada		Records Storage and Retrieval Process
Various Reports	Vince Saunders(RRB#2 ITS)	Yes	SFD, other regions, HQ, R5	IM v9.0Access 2003 Crystal Reports v2008	EPA staffContractors	EPA staffContractors		Various reports for above programs and CERCLIS
Quality Assurance Project Plan Tracker	Tim Prendiville (RRB #1, RRS#2)	Yes	RRB	dBASE Plus v2.61.5	P. Zanter	No Longer Supported		QAPP info tracker converted from MS Access
Confidential Business Information (CBI)	Evette Jones (ECAB ESS#3)	Yes	R5 users of CBI	HTML	E. Munoz-Parrilla and L. Liu	E. Munoz-Parrilla and L. Liu		CBI Training